

11thMEDITERRANEAN CONGRESS OF PHYSICAL & REHABILITATION MEDICINE

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ABSTRACT BOOK

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Dear Colleagues

On the behalf of the organizing committee of the 11th Mediterranean Congress of Physical & Rehabilitation Medicine, we would like to welcome all congress participants. Also, we appreciate those who came from far countries. In this congress we have participants from 14 European countries, 9 Arab countries and USA. The congress will multiple areas of interest discuss in the field of neuromusculoskeletal disorders; and the slogan of the congress is "preventing musculoskeletal disability".

The 11th congress represents a breakthrough in the history of congresses organized by the Mediterranean Forum of Physical & Rehabilitation Medicine, being the first time to be held in the African continent.

The congress is held in Alexandria overlooking the Mediterranean Sea. Alexandria is an old Mediterranean city extending about 32 km along the coast of the Mediterranean Sea in the north central part of Egypt. It is the second largest city and metropolitan area in Egypt after Cairo. Such an attracting location will add another aspect to the event. Alexandria has a history dating back to Alexander the great, who founded the city 332 BC as a modern extension of the old city of Rakoda and the island of Pharos. Alexandria has always been a cosmopolitan city, truly representing the bridge between the east and the west. Throughout its history, its culture has been enriched by the influences of the multiple nationalities which lived in the city across different epochs. Alexandria is not only a nice and a safe place, but also a tourist attraction city.

This congress is a gathering for specialists and trainee in neuromusculoskeletal disorders from Egypt and the different Mediterranean countries to discuss recent advances in preventing, managing and rehabilitating neuromusculoskeletal disorders. Experts in neuromusculoskeletal disorders and rehabilitation medicine from Mediterranean, European and Arab countries as well as USA will participate in the different sessions of this congress; besides participating in workshops and symposia. This is a great opportunity for graduate medical students and residents to grasp the skills and to know recent advances in diagnosis, therapy and rehabilitation of neuromusculoskeletal disorders.



Prof. Dr. Tarek Shafshak



Prof. Dr. Naglaa Gadallah

We are honored by your participation in this congress; hoping that this congress will be enjoyable and informative.

> Congress president Jarek Shafshak, MJ

Vice president of Mediterranean Forum of PRM Professor of PM&R, Alexandria University Congress vice president Naglaa Gadallah, MD

President of the EGYRAR Professor of PM&R, Ain Shams University

EGYRAR: Egyptian Society of Rheumatology & Rehabilitation

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REHABILITATION RESEARCH in WESTERN EUROPE

Prof. Calogero FOTI, MD, FEBPRM Chair in Physical and Rehabilitation Medicine Director of PRM School Coordinator of Rehab and Sports PhD Tor Vergata University, ROME, ITALY, EU

Abstract

Europe is a world continent of 10.000.000km². Population is about 742.000.000 inhabitants. The population density is around 73 person per km². Europe, in particular Ancient Greece and Ancient Rome, is the birthplace of Western culture. Europe is not only a geographic expression, but a political expression too: Europian Union.

University systems were born to solve the necessity to study for the better quality of life of People (without frontiers and barriers).

The medical act encompasses all the professional action, e.g. scientific teaching training and educational, clinical and medical-technical steps, to promote health and functioning, prevent diseases, provide diagnostic, therapeutic and rehabilitative care to patients, individual groups or communities and is the responsibility of and must always be performed by a registered medical doctor/physician or under his or her direct supervision and/or prescription.

In Europe the University System is organized in three levels. The **first level** consists in triennial degree courses, and master dedicated to the triennial doctors. The **second level** consists on Specialistic Degree Courses, like Medical Doctor Degree, Odontoiatry Degree, Specialistic Degree for Health Professionals (3 yrs+2yrs), and Masters dedicated to Specialistic Doctors. The **third level** consists on Doctoral Schools (3 yrs) (PhD, Philosophy Doctorate) and Medical Specialitation Schools (4-5 yrs). The complete cycle from I to III level lasts 8 to 11 years.

Physical and Rehabilitation Medicine is the use of all means aimed at reducing the impact of disabling and handicapping conditions and at enabling people with disabilities to achieve optimal social integration (WHO). PRM provides the setting for organised rehabilitative care, evaluate Follow-up. The existence of a separate specialty of PRM is known to benefit patients.

The prevalence of disability is accepted as around 10%. Relevant factors are that Population is ageing, Survival from serious disease and trauma is improving, European people have increasing expectations of maintaining good health. Rehabilitation is effective in reducing the burden of disability and in enhancing opportunities for people with disabilities.

The Health system model is actually formed by three clinics: **clinical medicine**, **clinical surgery**, **clinical rehabilitation**. This last clinic is the younger of the three.

The reasons for the steady increase of research in PRM include:

 It was difficult in the past to conduct research because of the lack of disability scales, instruments to evaluate function and quality of life and statistical tools.

- We lacked a specific research methodology. Now we are increasingly adopting the best research methods and we are working to develop and apply tools potentially even more specific for PRM.
- We did not have a general reference framework for our specialty only until the 1980s, first with the International Classification of Impairment, Disabilities and Handicaps (ICIDH) and then with the International Classification of Functioning (ICF).
- The number of researchers that work in Rehabilitation has grown dramatically the last two decades and especially the number of Physiatrists in Italy.

In the future PRM will determine in Europe:

- An important consequence of the expansion in PRM research is the increasing number of journals and their impact, reaching an Impact Factor of nearly 4 in some cases in our category.
- There is consistent growth of research in our specialty that parallels the evolution of the health systems in Western countries.
- PRM is attracting physicians from other specialties which may be either a risk or a strength depending on how we will be able to address these issues.
- Rehabilitation has been a specialty on the boundary. In clinical practice its integration with the so-called organ-specific specialties cannot be avoided.

Only by properly remaining on the edge we will be able to harness the surging forces we have already encountered and will presumably continue to face in the years ahead. We will need to drive the future to the empowerment of our specialty, for the sake of disabled people and for the adequate management of scarce and diminishing economic resources.

REHABILITATION IN THE PHARONIC ERA

Mohamed R. Awad, MD

Former director of the Armed Forces Rehabilitation Center, Agouza, Giza, Egypt

Abstract

Rehabilitation medicine has been practiced in the pharonic era. Sticks have been used in ancient Egypt by peoples with disability. Drawings on the walls of temples in ancient Egypt and on papyrus revealed that old Egyptian used assistive devices and manipulation for treating diseases. Sculptures at the Temple of Astarte at Memphis illustrated a door-keeper and priest, who suffered from poliomyelitis of the right lower limb, 1403-1365 BC used a supporting stick in walking. Some of these drawings will be presented.

MEDICAL REHABILITATION AND COMBAT INJURIES

Dr.Maher S. Al-Jadid

Consultant, Director of Functional Health Care Services & Rehabilitation Medicine Departments Prince Sultan Military Medical City Riyadh,Saudi Arabia.

Abstract

Medical care has improved in both body and vehicle armor have combined to increase a wounded soldier's odds of survival, which have risen from 76.4 % to 90.4 % for the last few decades. That was a goal for all military institutes internationally to save soldiers . Yet this survival rate comes with increased demand on the health care system. Many survivors have sustained traumatic orthopedic injuries: approximately 70 percent of war wounds are musculoskeletal injuries, and 55 percent are extremity wounds. Fractures account for 26 percent of combat injuries, and 82 percent of all fractures are open fractures. Also combat injuries are high velocity and may involve explosives.

Soldiers during combat are exposed to the risk of injuries whether from the enemy or from weather or the environment. The missions of Armies are usually conserving the fighting force and even if injured to rehabilitate them to their best physical, mental vocational and psychological ability. If this is followed some with reversible injury would be able to return to duty in a timely manner.

In general, all combat injuries would need short or long term rehabilitation. Injuries could be major like Spinal Cord Injuries, Traumatic Brain Injuries, Burn, or Amputation. Minor include nerve injuries or soft tissue injuries.

Rehabilitation begins usually by prevention of the injuries through taking enough precaution during training. This goes in lieu with educating the soldiers of first aid, handling and transferring the injured victims. Prevention of secondary injuries and deconditioning would speed up recovery and reduce disability in addition to limiting the period of rehabilitation. Active rehabilitation should start as early as possible in conjunction with military medical and surgical care. It is continued throughout the injured soldier recuperation after transfer to military hospital and until maximum functional restoration is restored. The necessities of war demand that the rehabilitation team in the combat theatre be mobile and responsive to the need of the hospital to which they are attached and ultimately to the field command. Early treatment while the casualty was at rest included prevention of complication and deconditioning, casts and splints fabrication, early ambulation whenever possible, minimizing contracture, weakness and orthostatic hypotension, exercises whether passive or active. Psychosocial I support for the soldiers and families should also be commenced and made always available to them to overcome the stress and the psychological trauma.

IMPACT OF NEW TECHNOLOGIES AND ROBOTIC ON REHABILITATION DEVELOPMENT

Alessandro Giustini, Florence University, Italy

Abstract

PRM have to discuss about the effects of the appearance of increasing numbers of technologically advanced equipments within organization and effectiveness of rehabilitation activities.

Research conducted around all the world in recent years firmly describes various aspects regarding the relevant effects of the proper use of different types of new equipment in numerous and significant conditions of impairment and disability: there is no doubt that the time has now come to move on to a more comprehensive, global and critical evaluation as regards the actual usefulness of such rehabilitation applications.

All the major areas of clinical rehabilitation activities are "attacked" by the development of technologically advanced equipments. That has been stronger, not only in the scientific level, but sometime whit negative aspects of communication and illusion too.

Technical devices and tools were always relevant part of PRM: now they may provide the most significant contribution to transforming assessment and treatment methods. A very fascinating perspective is "tele-Rehabilitation" for example. Firstly and mainly in musculoskeletal fields (lower limb, upper limb, walking, functional, occupational and vocational activities..) but also in cognitive and speech fields.

They are also to be viewed as areas that are integrated and in synergy with other treatments and interventions, in any cases within the global Individual Rehabilitation Project without ever underestimating the strong cognitive and motivational value that these devices can often have and that must also be governed by the related ethical obligations and codes of conduct.

We have to analyze, therefore, the effects of these tools in the totality of the *Outcome*, as indicated by the ICF, which it is possible to offer to the individual being cared for - precisely by integrating these new methods of assessment and treatment along with other, more traditional but equally important ones into the Individual Rehabilitation Plan.

A simultaneous analysis of the effects that this innovation produces in the organization's overall process of rehabilitative cares (from the points of view of management, organization, professionals, training and even finances) is surely one of the most important task for our clinical and research role.

Not underestimating the complex effect on the psychological individual attitude of patient regarding his recovery and his active engagement, regarding a close relationship with an apparatus and not only with a therapist, regarding some aspects of independent activity for recovery, regarding the enlarging possibilities to freely decide the contents of personal outcome (functional participation sometimes accessible using robot as a personal technical aid).

Even the development by manufacturing Companies of different devices may draw positive indicators from this scientific analysis, so it is useful to enrich the cooperation together them enrich the role of PRM. We can suggest and ask research topics, guiding too in the development and evaluation together bioengineers and other technicians, from the basis of clinical knowledge; in the same time only PRM can optimise useful potential of new apparatus for integration into nursing and treatment programs aiming the enrichment of global outcomes. Surely robotics and new technologies are yet modifying common and verified Individual Rehabilitation Plan and Functional Outcomes in many conditions of disability, offering innovative possibilities to clinicians and innovative perspectives to patients and persons in care.

Another our fundamental contribute must be focused to develop too all aspects regarding the needed best appropriateness and sustainability in relation to clinical indications : possible patients to be treated , in this actual first period of research and development, can be a little selected number but our aim is to be able to treat everyone.

Educational perspectives, last but not least, are surely very large for every member of the Rehabilitation Team to be able all together to apply and to reach the best efficacy/effectiveness.

RECENT ADVANCES IN PAIN MANAGEMENT

Islam A. Saleh, MD. Centre Medical Group, Lynchburg, VA, USA

Abstract

Pain is defined as an unpleasant sensory or emotional experience associated with an actual or potential tissue damage. Our understanding of pain has evolved over the course of human experience. While Ancient Egyptians thought that pain is an evil spirit that enters the body through the left nostril, they've applied methods for pain management that are still relevant to common everyday practice. The understanding of pain theory and pain pathways are paramount to implementation of different treatment methods. In 1965; Melzack and Wall proposed their hypothesis for the gate control theory, which helps explain how pain signals could be modulated at the level of the dorsal horn of the spinal cord. Those are the principles through which spinal cord stimulators are thought to exert their effect on treating chronic radicular and neuropathic pain. Over the last two decades there have been many advances in chronic pain management, with significant technological improvements in implantable devices as well as an emerging field of regenerative medicine. Of those new technologies; spinal cord stimulators have been widely used for failed back surgery syndrome, neuropathic pain and limb salvage in peripheral arterial disease. Other new therapies in chronic pain management includes intrathecal drug delivery systems, minimally invasive lumbar decompression and disc regenerative therapy.

GUIDELINES AND GAPS ON SPASTICITY TREATMENT REGARDING COMPREHENSIVE PATIENT MANAGEMENT

Jorge M. Lains, MD Physical medicine & Rehabilitation center, Coimbra, Portugal

Abstract

THE PROBLEM OF OSTEOPOROSIS IN EUROPE AND ITALY

Francesca Gimigliano, MD, PhD Assistant Professor of Physical and Rehabilitation Medicine Second University of Naples, Italy

Abstract

Osteoporosis was defined in the NIH Consensus Statement in 2000as "a skeletal disorder characterized by compromised bone strength predisposing to an increased risk of fracture". It is an important public health problem that is growing due to the worldwide increased life expectancy. The WHO demographics data showed that individuals aged \geq 60 years will triple by the year 2050, with the sub-population aged over 85 years that will grow faster than the others. This demographic shift will interest not only Italy, in fact, by 2050, it is foreseen a 100% increase of the population over 65 in the developed countries and up to the 230% in the developing ones. Osteoporosis has a clinical impact in the resulting fragility fractures, whose incidence increases with age. In 2009, in Italy in Italy there were over 100,000 hip fractures. Followed by wrist fractures, vertebral fractures and humerus and ankle fractures. Osteoporosis can be a silent disease but osteoporotic fractures cause significant morbidity, disability and decrease in quality of life and lead to long-term limitations in functioning. Therefore osteoporotic patients need a comprehensive rehabilitation treatment aimed to prevent and treat osteoporosis and its complications thus maintaining optimal functioning and activity and preserve the desired patients' social participation.

BACLOFEN PUMP THERAPY FOR INTRACTABLE SPASTICITY.

Klemen Grabljevec

University Rehabilitation Institute »Soča«, Ljubljana, Slovenia

Abstract

Spasticity as a clinical problem has never the less an important influence on patient stability and quality of life therefore represents a major rehabilitation problem and should be a focus of therapy for P&R medicine specialist. Spasticity is an expensive, often undertreated condition, with heavy economic burden for patients, caregivers and society and a cause of disability due to decreased mobility, weakness, and fatigue. Spasticity results in increased dependence on family and institutional caregivers for activities of daily living. It consequently ends in costly complications such as joint contractures and pressure sores with decreased quality of life. On other hand, patients are often undertreated due to side effects of oral antispastic medication.

In some patients severe spasticity of cerebral or spinal origin can not be treated successfully with conventional oral medication or physical modalities. Intrathecal baclofen therapy with implanted pump represents effective treatment frommid-80's. Baclofen (Lioresal) is a muscle relaxant and potent GABA agonist that acts via GABAb receptors at the posterior columns of spinal cord level, to inhibit the release of excitatory neurotransmitters by inhibiting calcium ions influx into presynaptic terminals. This direct binding on spinal cord receptors leads to higher efficiency compared to per oral therapy in which baclofen does not pass the brain-blood barrier. What is mostly important is, that it does not pass the blood-brain barrier, therefore majority of oral intake of baclofen remains in the serum and is present in the spinal fluid only in traces.

General indications for treatment with intrathecal baclofen pump are those with spasticity of cerebral or spinal origin, which is a cause of restriction:

- ambulation / transfer / seating,
- daily activities &care,
- rehabilitation interventions & progress,
- daily rest or sleeping or
- causes pain / discomfort and
- is a potential factor for late complications (pressure ulcers, contractures...).

Typical conditions suitable for intrathecal baclofen therapy are: spinal cord injury, multiple sclerosis, traumatic and hypoxic brain injury, stroke, cerebral palsy and hereditary spastic paraparesis.

AUTONOMIC DYSREFLEXIA IN SPINAL CORD INJURIES

Prof. Nicolas Christodoulou MD, PhD, SPRM(GR), Life Fellow EBPRM. Limassol Centre of Physical & Rehabilitation Medicine European University Cyprus – School of Sciences – Dept. of Health Sciences, Cyprus.

Abstract

Autonomic Dysreflexia is the phaenomenon of massive neurosympathetic reaction, in response to an irritation affecting Spinal Cord Injured patients with lesion above T6 level, i.e. over the level of the main splachnic sympathetic input.

Potentially it is life-threatening. The main symptom is paroxysmal hypertension which occurs when the spinal shock subsides and the reflexes return.

In the presentation, the aetiology, the symptoms and clinical signs as well as the epidemiology are presented. Also the patho-physiology is explained.

Finally, the management of autonomic dysreflexia in general and the new pharmacological approaches are presented and analysed.

LONG-TERM EFFECT BOTULINIUM TOXIN IN CHILDREN WITH CEREBRAL PALSY: A COMPARATIVE STUDY

Soumaya Boudokhane¹, Emmanuelle Chaléat-Valayer², Christelle Ganne³, Zohra Ben Salah Frih¹, Jean Claude Bernard²

¹Fattouma Bourguiba University Hospital; Department of Physical Medicine and Rehabilitation,²CMCR des Massues - Croix-Rouge Française, Lyon-France, ³Hospices Civils de Lyon, Pôle Information Médicale, Evaluation, Recherche, Unité d'Evaluation Médico-Economique, Lyon-France

Abstract

Objective: Based on a comparative study between toxin and control groups, we evaluate the effects of repeated and long-term botulinium toxin A (BoNT-A) injections on bone deformities, walking pattern changes and the age of surgery in children with cerebral palsy and with GMFCS level I, II and III.

Patients and methods:Twenty nine children are subjected to this comparative and bi-centric study. The toxin group (G1) corresponds to children who are regularly treated by BoNT-Aat the rehabilitation center "Massues Croix Rouge.Française" in Lyon-France. Whereas, the control group (G2) corresponds to children who are never treated with toxin and are followed at the rehabilitation center in "Monastir-Tunisia". The clinical data were collected at baseline and after 5 years: Spastic CP subtypes, walking pattern and bone deformities were listed.

Results: The improvement of the GMFCS level in the G1 group was significant after 5 years. The percentage of children with GMFCS level IV was 34.5 % in G2 and 10.3% in G1. It has to be noted that the true équinus pattern in hemiplegia and spastic diplegia of the G1 group was significantly disappeared. While, the crouch gait pattern in the G2 group increased from 38.9% to 72.2% of cases. We also noticed that the frequency of external tibial torsion (69% vs. 27.6%, p<0.05) and midfoot break (65.5% vs. 37.9%, p<0.05) were significantly different between the two groups. In G1, 37.9 % of children required surgery after 9 years of follow-up.

Discussion: Repeated and long-term BoNT-A injections are effective to improve the functional level and walking patterns of children with CP.

PHYSICAL THERAPY AND MYOTONOMETRY METHOD IN MONITORING THE LOWER LIMB SPASTICITY OF CEREBRAL PALSIED CHILDREN

Eugenia Rosulescu¹, Dan Visarion Caimac², Ligia Rusu¹, Marian Dragomir¹, Mircea Danoiu¹ ¹Department of Physical Therapy and Sports Medicine, University of Craiova, Romania ²University of Medicine and Pharmacy Craiova, Romania.

Abstract

Purpose: This study aimed to appreciate a complex physical therapy program's effect on spasticity in cerebral palsied children (CP), spastic paraplegia form (diplegia), the significance of evaluation methods in assessing therapy results, highlighting the importance of myotonometry in assessment muscle viscoelasticity by measuring the force index (IF) and stiffness (S) of lower limb muscles.

Participants and methods: We investigated a sample of 94 children diagnosed with CP, spastic paraplegia, 38 boys (40.43%) and 56 girls (59.57%), aged between 5-10 yrs. This observational, non-experimental, study was conducted in an outpatient program of two rehabilitation facilities, using techniques of physical therapy, electrotherapy and orthotic devices for 1 year period. The spasticity was assessed by the Modified Ashworth Scale (MAS) for CP children (hip adductors, knee flexors, plantar flexors-triceps surae), and by myotonometry using Myoton 3 system, Triple-Scan mode (based on mechanic impulse on a muscle group, which involves a muscle response like acceleration, speed and amplitude curve, offering information about elasticity, stiffness beginning from mechanic oscillations of muscle tissue).

Results: After a 12 months therapy program we noticed a decrease on MAS mean score for hip adductors (initial value 2.79 ±0.60, final 1.56 ±0.56), knee flexors (2.91 ±0.38, than 1.55 ±0.51), triceps surae (3.33 ± 0.60 , 2.18 ± 0.58 , p<0.001). The stiffness of biceps femoris muscle showed a decreasing from 254.09±42.87 at the beginning of study to 190.88±33.97 (p<0.001) after 1 year therapy. The same improvement has been found for gastrocnemius muscle (initial 296.45±59.54, then 227.85±42.23, p<0.001).

Conclusions: One year physical therapy program for spastic CP improve the gross motor abilities of the affected children, but also improves the muscle parameters and decrease spasticity. By myotonometric measurements we can objectively monitor the muscle functional status during the rehabilitation program in terms of muscle tone and numeric values for stiffness and elasticity.

ANTHROPOMETRIC AND NUTRITIONAL ASSESSMENT OF CHILDREN WITH SEVERE CEREBRAL PALSY: ABOUT A TUNISIAN POPULATION

Soumaya Boudokhane, Dr Houda Migaou, Dr Sana Salah ,Dr Anis Jellad, Dr Zohra Ben Sala Frih Fattouma Bourguiba University Hospital; Department of Physical Medicine and Rehabilitation, Tunisia.

Abstract

Objective:

The aim of this study was to estimate the prevalence and severity of feeding and nutritional problems in children with severe CP (with multiple disabilities), in addition to assessing the presence of predictors factors, associated with nutritional status.

Patients and method:

This was a cross-sectional study of 46 children with severe CP. Anthropometric measurements (body weight, knee height, mid-upper arm circumference, and triceps skin-fold thickness) were taken. Serum levels of ferritin, total proteins, albumin, lipid and vitamin D were measured. In addition, feeding times, the presence of gastrointestinal problems (drooling of saliva, vomiting, dysphagia, etc...).

Results:

We evaluated 46 children with a mean age of 6.8 years. Sixteen children had epilepsy and 34 children had orthopedic problems. The presence of oromotor dysfunction were noted in 70% of cases. 65% were constipated, and 65% had drooling of saliva. The meal was given in the majority of cases by the mother and feeding mean times was 40 minutes. The majority of parents described feeding time as stressful and unenjoyable. The average value of triceps skin-fold was 7.6 mm and mid-upper arm circumference was 15 cm. 42 patients had low serum ferritin and vitamin D deficiency was noted in 43.4% of cases. Anthropometric and values of biochemical markers were significantly lower in patients with severe comorbidities and gastrointestinal problems.

Discussion:

The results highlight that feeding problems, anthropometric, and biochemical markers of the nutritional status in children with severe cerebral palsy are common and severe. Many of these children would benefit from nutritional assessment and management as part of their overall care.

EFFICACY OF MULTILEVEL BOTOX A TREATMENT OF HEMIPLEGIC AND DIPLEGIC SPASTIC CEREBRAL PALSY: -CLINICAL AND ELECTROPHYSIOLOGICAL STUDY

Nayera Saber, Dalia Ezz El Din,

Department of Physical Medicine, Rheumatology and Rehabilitation, Ain Shams University, Cairo, Egypt.

Abstract

Background: Spasticity in children with CP is a serious problem that affects daily life activities and places obstacles in the path to achieving the rehabilitation goals. The clinical assessment of spasticity depends on descriptive scales such as modified Ashworth scale and Gross Motor Function Measure (GFM) . It has been advised that assessment of spasticity should include neurophysiological measurements of muscles activity levels which provide a direct measure of spasticity. Spasticity and the other positive features of the upper motor neuron syndrome can be targeted with botulinum toxin (BTX-A).

Objective: The aim of this study is to detect favorable outcomes of multilevel Botox A in spastic CP children from clinical and electrophysiological points.

Methods:12 patients with spastic cerebral palsy with predominantly lower limbs spasticity were enrolled in this study. Identification of target muscles was made after comprehensive clinical assessment. All patients were tested by MAS, Timed 10 meterwalk(seconds) and Pain scale (0-5) rated by the individual. Also, Electrophysiological assessment by F wave, H reflex with estimation of F/M and H/M amplitude ratio and Surface EMG of spastic muscles for interference pattern(IP)recording were done in hemiplegic side in hemiplegic patients, and on both sides in diplegic patients. The various muscle groups that were injected in each session were the gastrocnemius(Gas),soleus(Sol), medial and lateral hamstring(Ham), and tibialis posterior (TP)muscles. The dosage for Botox (Allergan, USA) ranged from dose ranged from 3-6 U/Kg for large muscle of lower limb ,1-2-U/Kg for forearm muscles, 50 U per injection point, and maximum of 200-300U per session. The total muscle dose was divided between 2–4 injection sites. Injection was guided by electric stimulation apparatus for the exact identification of target muscles and motor points. All patients received regular physiotherapy sessions in the form of 5 days a week for next 4 weeks then 3 days a week continued for additional 5 months and wore 90° ankle splint at night during the period of the stud. Assessment of previous clinical and electrophysiological parameters were repeated at 1, and 6 months after injection.

Results: 12 patients with cerebral palsy, 8 were diplegic and 4 were hemiplegic, 8 males and 4 females. Their mean age was 9.60 ± 4.62 years, with mean disease duration 9.30 ± 4.08 years. Friedman test was used to compare baseline data with 1 month and 6 months after injection and revealed significant increase in knee and ankle ROM (X^2 13.45, P < 0.01 and 10.8, P < 0.05) respectively. Moreover, MAS of Left Gas, Sol, Ham were significantly reduced (P<0.001)as well as Right Sol, and Ham muscles(P< 0.01, P< 0.05) respectively. Moreover, TMW and Pain score were significantly improved (X^2 12,p<0.01, X^2 13.13, P 0.001) respectively. Electrophysiological tests revealed a significant decrease of F/M amplitude 4 weeks after injection (Z -2.36, P <0.01) which persist till the end of study (Z -2.21, P<0.05) as well as a significant decrease in H/M amplitude in the interval from 4weeks till 6 months in both hemiplegic and diplegic patients. No significant change in IP from baseline to 4 weeks or 6 months post Botox injection.

Conclusion: Multilevel Botox A injection in a single session reduces spasticity and improve the outcomes of spastic CP both clinical(ROM, TMW) and electrophysiological measures(F/M, H/M) up to 6

O-05

ASSESSMENT OF FRACTURE RISK IN PATIENTS WITH OSTEOPOROSIS OR OSTEOPENIA (USING BMD & FRAX)

Jorge M. Lains, MD Physical medicine & Rehabilitation center, Coimbra, Portugal

Abstract

O-06

NON-PHARMACOLOGICAL METHODS IN THE MANAGEMENT & REHABILITATION OF PATIENTS WITH OSTEOPOROSIS & OSTEOPENIA

Prof. Gulseren Akyuz, M.D. Marmara University School of Medicine, Department of P.M.&R. Istanbul, Turkey

Abstract

Physical activity can help osteoporosis patients gain improvement in muscle strength and cardiovascular endurance, and can reduce functional decline. Benefits from regular exercise include improved bone health, both psychological and cognitive benefits, and enhanced quality of life. Adequate intakes of calcium, vitamin D and protein are also an important component of the rehabilitation program. Dietary calcium and vitamin D have been shown to help preserve bone mass and bone strength and should be considered in all elderly patients and in those patients suspected to be vitamin D deficient. Osteoporosis is a disease with psychosocial consequences, and therefore, a psychological assessment is integral to the rehabilitation of any patient with osteoporosis and is an important component of the overall management plan.

An effective pain management plan following fractures through a variety of physical, pharmacological and behavioral techniques should be implemented with close monitoring of side effects, such as disorientation or sedation that may lead to falls.

O-07

PHARMACOLOGICAL METHODS IN THE MANAGEMENT AND REHABILITATION OF OSTEOPOROSIS AND OSTEOPENIA

Tarek S. Shafshak, MD

Professor of PMR & rheumatology, Faculty of Medicine, Alexandria University, Egypt

Abstract

The clinician's guide to prevention and treatment of osteoporosis in postmenopausal women and men aged 50 years or older was developed by an expert committee of the National osteoporosis Foundation (NOF). Diet should include adequate amounts of total **calcium intake** (1000 mg/day for men aged 50–70 Y; 1200mg/day for women aged 51Yor older and men 71Y and older); and **vitamin D** intake (800–1000 IU/day for individuals at age 50 years and older). Dietary supplements would be given, if diet is insufficient in calcium and Vit D.

According to NOF in 2014, pharmacological treatment is recommended for: 1) those with hip or vertebral fractures; 2) those with T-scores ≤ 2.5 at the femoral neck, total hip, or lumbar spine by DXA; 3) In postmenopausal women and men aged 50 and older with **osteopenia** (T-score between -1.0 and -2.5) at the femoral neck, total hip, or lumbar spine by DXA; and a 10-year hip fracture probability ≥ 3 % or a10-year major osteoporosis-related fracture probability ≥ 20 % based on the USA-Fracture Risk Algorithm (FRAX)*.

The current FDA-approved pharmacologic options for osteoporosis are **bisphosphonates** (alendronate, ibandronate, risedronate, and zoledronic acid), **calcitonin**, **estrogen**

agonist/antagonist (raloxifene), tissue-selective estrogen complex (conjugated

estrogens/bazedoxifene), **parathyroid hormone** 1–34(teriparatide), and receptor activator of nuclear factor kappa-B (**RANK**) **ligand inhibitor** (denosumab). One should consider drug precaution and contraindications before choosing the appropriate antiresorptive medications for a particular patient.

No pharmacologic therapy should be considered indefinite in duration. After the initial treatment period, which depends on the pharmacologic agent, a comprehensive risk assessment should be performed to determine whether medication should be continued or stopped.

*www.NOF.org and www.shef.ac.uk/FRAX

O-08

DOUBT ON THE ROLE OF VITAMIN D

Naglaa A. Gadallah, MD

Professor of Physical Medicine, Rheumatology and Rehabilitation, Ain Shams University, Cairo, Egypt

Abstract

The registration of all available drugs for osteoporosis, including vitamin D, was obtained from the results of large randomized clinical trials demonstrating their ability to reduce fracture risk. On the contrary, new results from extensive analyses of observational and randomized clinical trials suggest that vitamin D given alone, or combined with calcium, does not appear to increase bone-mineral density or reduce the risk for fractures or falls in older people.

New results also signify that a clear role for vitamin-D supplementation for any other indication remains to be established — no significant effect on mortality overall in randomized clinical trials was seen for any indication. It is suggested that Low concentrations of 25-hydroxyvitamin D (25[OH]D) are most likely an effect of health disorders and not a cause of illness. The discrepancy between observational and interventional studies suggests that low 25(OH)D is only a marker of ill health.

Further insights on the role of vitamin D are still needed.

O-09

PREDICTORS OF OSTEOPOROSIS IN PATIENTS WITH MODERATE COPD ON INHALED CORTICOSTEROIDS.

Fatemah A. El-shabacy^a, Sherry K. Abd El-Rahmana Amal El-Maghraby^b, Eman R. Amer (PhD)^c.

^a Department of Rheumatology and Rehabilitation , ^b Department of Internal Medicine, ^c Department of clinical pathology, Benha Teaching Hospital, Benha, Egypt.

Abstract

Background: Patients with COPD are at increased risk of osteoporosis because of their age, limited physical activity, smoking, malnutrition and use of corticosteroid. Inhaled corticosteroid (IC) is used in COPD as these agents decrease the frequency of exacerbations.

Aim of this study is to assess BMD, serum osteocalcin and marker of bone turnover in patients with COPD treated with IC.

Methods: Patients with COPD, with moderate severity according to the criteria of GOLD committee (n-60) under IC therapy for at least one year, were assessed clinically and by evaluation of their bone mineral density (BMD) and biomarkers of bone turn over, urinary hydroxyproline, total pyridinoline, and osteocalcin, biomarker of bone formation, were assessed. The results were compared to sex and age matched control group (n=20).

Results: This study included sixty COPD patients with moderate severity according to GOLD committee criteria, treated with inhaled corticosteroids "Beclomethasone". Males were 28 (46.7%) and females were 32 patients (53.3%). patients age ranged from 20-50 years in males, and 20-45 years in females with mean (44.4± 2.4) years. The control group included 20 subjects, 8 males (40%) and 12 females (60%) with mean age $(39, \pm 5.6)$ years. Patients T-score was ranged from (-2.6 to - 3.5), with mean (-1.3±2.6), while control group T-score was ranged from (-1.2 to-1.9) with mean -1.47±0.22.T-score was highly significantly lower in COPD patients. In COPD patients, osteocalcin level was ranged from 1.5 -2.5ng/ml, with mean (1.8±.4), while in control group, it was ranged from 2.4-3.5 ng /ml with mean (2.8±0.37). Osteocalcin level was significantly lower in patients than in control group (P <0.05). Urinary pyridinoline in COPD patients was ranged from 45-58 mg/24 h /m² with mean (51.1± 4.4). While in control its range was 22- $53 \text{ mg}/24 \text{ h}/\text{m}^2$ with mean (32.7±8.5). Urinary pyridinoline level was highly significant higher in COPD group compared with control (P≤001). Urinary Hydroxyproline in COPD patients was ranged from 8.3- $22.5 \text{ mg}/24 \text{h/m}^2$ with mean (13.2 ±2.9), in control group it was ranged from $2.5-23.3 \text{ mg}/24 \text{h/m}^2$ with mean (16.2 \pm 6.5). Comparison of hydroxyproline level among both groups showed that it was lower in patients than control but this difference was not statistically significant (P = 0.06). T -score was significantly inversely correlated with serum osteocalcin, and urine pyridinoline levels (P was0.01 and 0.001) respectively, while it was not significantly correlated with neither patients age nor hydroxypyroline level.

Conclusion: Regular evaluation of osteocalcin and BMD would be helpful for detecting any detrimental changes of bone in COPD patients under long term IC therapy.

Key word; osteocalcine, pyridinoline, COPD.

O-10

PERIPHERAL NERVE ENTRAPMENT IN UPPER EXTREMITY

Ilker Yagci, M.D

Assoc. Prof. Marmara University School of Medicine Department of Physical Medicine and Rehabilitation, Istanbul, Turkey

Abstract

Entrapment or compressive neuropathy (EN) is common clinical problem in the era of physical medicine and rehabilitation. EN is caused by mechanical dynamic compression of a short segment of a single nerve at a specific site, frequently as it passes through a fibro-osseous tunnel, or an opening in fibrous or muscular tissue.

The upper extremity EN's are summarized in table 1.

NERVE	ANATOMY	RISK FACTORS AND POTENTIAL ENTRAPMENT SITES
Axillary	From brachial plexus, around humeral head, through the quadrilateral space to deltoid/teres minor Quadrilateral	Humeral head compresses nerve during extreme abduction
	space boundaries: humeral neck, teres major and minor, long head of triceps	Upward pressure through the axilla
		Shoulder dislocation
		Compression in quadrilateral space
Long thoracic	C5 to C7 merge, travel between clavicle and first rib through axilla to serratus	Sudden upper extremity traction
	anterior muscle	Shoulder depression with
		contralateral neck flexion Prolonged compression (backpacker's palsy)
Median	Brachial plexus down anterior arm, at antecubital fossa passes through radial tunnel, dives between two heads of pronator muscle, under flexor	Injury at elbow or forearm: radial tunnel, within pronator teres muscle, under flexor digitorum superficialis
	digitorum superficialis, through carpal tunnel	Injury at wrist: carpal tunnel syndrome
Musculocutaneous	C5 to C7 merge into lateral cord brachial plexus, goes through axilla,	Shoulder dislocation
	under coracobrachialis, through biceps and under deep fascia at the elbow	Hypertrophy of the coracobrachialis
		Deep brachial fascia of elbow as nerve exits biceps (sensory symptoms only)
Radial	From brachial plexus, through axilla, down posterior arm until it circles	Injury in axilla or proximal humerus (fracture)
	toward anterior arm at spiral groove of the humerus; down anterior arm and	

	enters radial tunnel just above the lateral epicondyle Divides into superficial and deep (posterior interosseus nerve)branches	Injury at elbow: radial tunnel or area of proximal radius (fracture or dislocation); two nerve branches from elbow have injury potential, posterior interosseus nerve has mostly motor loss and the superficial branch has only sensory change (pain)
Spinal accessory	Emerges through sternocleidomastoid muscle, across posterior neck, dives under trapezius	Very superficial course in posterior neck and directly under the trapezius muscle
Suprascapular	From upper trunk brachial plexus, through posterior triangle, across top of scapula and through scapular notch, down posterior aspect scapula and across scapular spine to supraspinatus, infraspinatus	Entrapment under transverse scapular ligament that covers the suprascapula notch Injury as it crosses scapular spine or under spinoglenoid ligament
Ulnar	From brachial plexus down anterior arm; just above medial epicondyle it passes to the posterior compartment and into the cubital tunnel; down ulnar side of forearm into Guyon canal (boundaries are hamate and pisiform bones); splits into deep (motor) and superficial (sensory) branches in canal	Injury at elbow or forearm: cubital tunnel, ulnar nerve irritation with medial collateral ligament deficiency Injury at wrist: Guyon canal
Lower trunk of brachial plexus	C8-T1 nerve roots	Thoracic outlet syndrome

The most common EN is median nerve entrapment at the wrist followed by ulnar nerve entrapment at the elbow. In general, NE should be considered when a patient reports pain, weakness, or paresthesias that are not related to a known bone, soft tissue, or vascular injury. The location of symptoms, the type of symptom (i.e., paresthesias, pain, weakness), and any relation between a symptom and specific activity can be helpful for diagnosis. The clinical assessment, electroneuromyography and imaging tools can be necessary for definite diagnosis. Pharmacological, non pharmacological (rehabilitation) and surgery options should be considered according to entrapped nerve, localization of entrapment, etiology of entrapment, degree of injury, and estimation of prognosis.

O-11

ENTRAPMENT NEUROPATHIES OF THE LOWER LIMB

Tarek S. Shafshak, MD

Professor of PMR, Faculty of Medicine, Alexandria University, Egypt.

Abstract

Introduction: Entrapment neuropathy is injury of the peripheral nerve by compression along its course by body structures. It usually occurs through a fibrous or osseofibrous tunnel or at a point where the nerve abruptly changes its course through deep fascia over a fibrous or muscular band. **Objective:** 1) To describe the common entrapment neuropathies of the lower extremity; and 2) To discuss the role of electrodiagnosis (ED) in entrapment neuropathies. Common examples: Common peroneal nerve entrapment (at neck fibula), tarsal tunnel syndrome (TTS), anterior TTS, miralgia paresthetica, femoral nerve entrapment, saphenous nerve syndrome and sciatic neuropathy. Rare example: entrapment of the posterior femoral cutaneous nerve of the thigh. Diagnosis: It is usually made by the clinical manifestations (pain and/or paresthesia at area supplied by the involved nerve, weakness of muscles supplied by the affected nerve distal to the site of entrapment and the presence of positive confirmatory tests e.g. tinel's sign or Phalen test)and confirmed by ED (and sometimes by imaging). Role of ED: ED can localize the site of entrapment, reveal the type of nerve pathology (neurapraxia or axonotemesis) and assess the extent of the lesion (partial or complete). It also can assess improvement following treatment. The commonly used ED procedures: Nerve conduction studies (motor and/or sensory), F wave and H reflex (for sciatic neuropathy) and electromyography (to detect signs of denervation and MUAP changes at muscles supplied by the affected nerve distal to the site of entrapment) is usually used. Somatosensory evoked potential may be needed to differentiate entrapment neuropathy from nerve root lesion. The appropriate ED procedure is chosen according to the nerve to be examined and the expected site for entrapment. The expected ED findings: Slow nerve conduction across (or distal to) site of entrapment, prolonged distal latencies in entrapment of the distal part of the nerve, decreased CMAP amplitude, decreased SNAP amplitude, unobtainable nerve conduction (in severe entrapment) and electromyographic signs of denervation (PSW and/or fibrillation potentials) and/or MUAP changes (decreased recruitment and/or increased polyphasicity) at muscle supplied by the affected nerve.

O-12

PUDENDAL ENTRAPMENT SYNDROME

Naglaa A. Gadallah, MD

Professor of Physical Medicine, Rheumatology and Rehabilitation, Ain Shams University, Cairo, Egypt

Abstract

Pain syndromes of the urogenital and rectal area are well described but poorly understood and under-recognized focal pain syndromes. The etiology of these focal pain syndromes is not known. A specific secondary cause can be identified in a minority of patients, but most often the examination and work-up remain unrevealing.

Better knowledge of the underlying pathophysiological mechanisms of the urogenital and rectal pain syndromes is needed to allow investigators to develop treatment strategies, specifically targeted against the pathophysiological mechanism. Entrapment of the pudendal nerve is frequently accused to be the main cause of this focal pain.

Electrodiagnosis can specify the localization of the anatomical entrapment, degree and type of the nerve lesion and the differential diagnosis of peripheral nerve compression versus lumbosacral radicular impairment, or other types of peripheral neuropathy.

O-13

CARPAL TUNNEL SYNDROME IN DIABETIC PATIENTS: CLINICAL, ELECTROPHYSIOLOGICAL AND SONOGRAGHIC STUDY

Dia Mohasseb¹, Hussein Almoghazy², Sherine Elsheriff ³, Mohamed El-Shafei⁴, Samar Al-Hantour⁵ Department of Physical medicine, Rheumatology and Rehabilitation, Faculty of medicine, Alexandria University, Egypt.

Abstract

Aim: To study the correlation between the clinical, electrophysiological and sonographic findings of CTS in diabetic patients.

Patients: The study included 3 groups .Group 1 contained eighteen diabetic patients presenting clinically with definite CTS. Group 2 contained eighteen diabetic patients who did not fulfill the clinical diagnostic criteria of CTS and 20 healthy control subjects.

Methods: Patients with DM were thoroughly evaluated clinically and were assessed for the presence of clinical picture of CTS before proceeding to the electrophysiological measurements. Electrodiagnostic techniques included (1) sensory conduction studies of median and ulnar. (2) motor conduction studies of median and ulnar nerves. Ultrasonographic evaluation of the median nerve and assessing of its cross section area (CSA) were done.

Results: There were statistically significant differences between the three groups as regards median nerve CSA; group1 patients had larger CSA in comparison to group 2 and control group. **In group1:** seventeen patients (94.4%) had positive electrophysiological results of CTS while by US only 15 patients (83.3%) had increased median nerve CSA. There was a positive correlation between clinical grading results and the electrophysiological grading results. There was no statistically significant correlation between electrodiagnostic grading results and median nerve CSA .There was an inverse significant correlation between median nerve sensory conduction velocity results and median nerve CSA. There was no statistically significant correlation between and median nerve CSA. **In group2:** four patients had positive electrophysiological results of CTS. Seven patients had increased median nerve CSA by US; three of them had positive electrophysiological results of CTS and the remaining four cases had diabetic peripheral neuropathy(DPN).Two patients had DPN with normal median nerve CSA.

Conclusions: In diabetic patients with suspected CTS, ultrasonographic assessment of the median nerve cross section area is a highly sensitive screening tool for electrophysiological abnormalities, but not for assessment of their severity.

Key words: carpal tunnel syndrome, electrophysiology, ultrasonography, median nerve cross section area.
Diagnostic Techniques In Physiatry

O-14

NERVE CROSS SECTIONAL AREA CHANGES USING ULTRASOUND IN TARSAL TUNNEL SYNDROME- A PILOT STUDY.

Abeer K. Elzohiery, Eman A. Tawfik, Amr Aboulela Department of Physical medicine, Rheumatology and Rehabilitation, Faculty of medicine, Ain Shams University, Cairo, Egypt

Abstract

Introduction: Neuromuscular ultrasound (NMUS) is an emerging tool in assessing neuromuscular disorders. However, no sonographic diagnostic criteria for lower limb entrapments are yet proposed.

Aim: To describe the cross sectional area (CSA) changes occurring to posterior tibial nerve in cases of tarsal tunnel syndrome (TTS) using ultrasound.

Methods: Five patients (10 feet) with suspected TTS and five healthy individuals (10 feet) underwent nerve conduction studies (NCSs) and blinded NMUS imaging for bilateral posterior tibial nerves. Nerve CSA was measured within and just proximal to the tarsal tunnel. CSA was considered abnormal if > 22.3 mm² according to **Cartwright et al 2008**.

Results: NCSs revealed bilateral TTS in 4 patients and one unilateral TTS case. Proximal CSA was within average in patients and controls (Mean=10.8 \pm 3.4 & 9.8 \pm 3.4 mm² respectively, P>0.05).

Mean CSA within the tunnel was (17 ± 9.7) and (9 ± 3.5) mm² for patients and controls respectively (P<0.05).

For the 9 feet with electrodiagnostically confirmed TTS, within tunnel CSA was:

*Greater than average in 3 feet.

*Within average in 5 feet. However, four of those feet showed greater CSA than proximal and their mean 'within/proximal tunnel CSA ratio' was 1.6 ± 0.6 . In one foot, CSA ratio was 1.

*Within average in one foot with a ratio=0.7. In fact, NCS of this foot showed minimal TTS.

In the feet with no evidence of TTS (a single patient's foot and 10 control feet), the mean 'within/proximal tunnel CSA ratio' was 0.9 ± 0.1 .

Conclusion: 'Within /proximal CSA ratio' might help in setting diagnostic sonographic criteria for TTS even when absolute CSA is within average.

O-15

A GLANCE AT OSTEOARTHRITIS PATHOPHSIOLOGY

Dr. Dia Mohasseb

Professor of Physical Medicine , Rheumatology and Rehabilitation Alexandria Faculty of Medicine, Egypt

Abstract

Osteoarthritis (OA) is a multifactorial disease with the end result of joint failure. Numerous mechanical and biochemical factors are involved in the pathogenesis through a variety of mechanisms. A proper knowledge of the biochemical and structural properties of joint tissues is a prerequisite to understand the different aspects involved in the pathogenesis of OA and thus to tailor a proper management program using the different tools available in the armamentarium of the treating physician.

O-16

DIAGNOSIS & ANALGESICS IN OSEOARTHRITIS (INCLUDING NSAIDS & TOPICAL AGENTS)

Francesca Gimigliano, MD, PhD Assistant Professor of Physical and Rehabilitation Medicine Second University of Naples, Italy

Abstract

Osteoarthritis (OA) is the most common type of arthritis or degenerative joint disease and the leading cause of chronic disability. OA includes an heterogeneous group of conditions that result in common histopathologic and radiologic changes, associated with functional impairments such as pain, morning stiffness and limitation of joint motion, that often leads to limitations of physical activities and restrictions in daily activities and participation. It also imposes a considerable economic burden on the healthcare system. In a recent Editorial of the Annual of Rheumatic Diseases, Kenneth D. Brandt says that the real problem in patients with OA is not radiographic OA but painful OA. At present, there is no cure for OA and its management is broadly divided into non-pharmacological, pharmacological, and surgical treatments. All international guidelines recommend to control pain a non-pharmacologic approach associated to drug therapy.

O-17

BIOMARKERS IN OSTEOARTHRITIS

Prof. Hassan Bassiouni Al Azhar University, Cairo, Egypt

Abstract

Osteoarthritis (OA) is a progressive disorder characterized by several features such as destruction of articular cartilage, subchondral bone, and by synovial tissue pathological changes. The diagnosis of OA is made based on clinical and radiographic changes, which occur relatively late in disease also having a poor sensitivity for monitoring disease progression.

The imbalance between cartilage degradation and repair, causes progression of joint damage and so measuring markers of these processes would seem a plausible approach to sharpen the prediction of disease progression at the individual level. The lack of effective, chondroprotective medications has limited the use of such potential markers to monitor the effect of treatment for OA. Nevertheless, owing to their dynamic changes in response to treatment, biological markers might provide relevant information more rapidly than imaging techniques can, and should contribute to our understanding of mechanisms that underlie the clinical efficacy of OA treatments. Most of the identified genes involved in OA encode signal-transduction proteins, which provide the potential for novel therapeutic approaches. In this Review, we will tion on the biomarker level.

O-18

ORAL CHONDROPROTECTIVE TREATMENT IN OSTEOARTHRITIS

Prof. Abdel-Moneim Helal Professor of Rheumatology& Rehabilitation, Faculty of Medicine, Alexandria University, Egypt.

Abstract

Osteoarthritis (OA) is a common joint disease that most often affects middle-age to elderly people. Previously was referred to as "wear and tear" of the joints, but now it is known to be a disease of the entire joint, involving the cartilage, joint lining, ligaments, and bone, characterized by; breakdown of the cartilage, bony changes of joints, deterioration of tendons and ligaments, and various degrees of inflammation of the synovium. Along with the expanding knowledge of cartilage biochemistry and OA pathogenesis, research has focused on slowing the progression of OA and promoting cartilage matrix synthesis.

Oral chondroprotectives are agents, which counter arthritic degenerative processes and encourage normalization of the synovial fluid and cartilage matrix through; stimulating chondrocyte synthessis, as well as synoviocyte production of hyaluronic, They also inhibit cartilage degradation; and prevent fibrin formation in the subchondral and synovial vasculature.

All these mechanisms act in the aim of protection and prevention of further deterioration of the affected joints.

O-19

CHONDROTOXICITY AND INTRAARTICULAR TREATMENT

Calogero Foti & Asmaa M. Ali Tor Vergata University, Rome, Italy **Abstract**

Intraarticular Treatment is a medical procedure that can ameliorate the quality of life of patients with OA.

Articular Disease Medicaments are Corticosteroids, Local Anesthetics, NSAID (non steroidal anti-inflammatory drugs), PRP (platelet-rich plasma), Hyaluronic acid.

The International Recommendations on Intraarticular Drugs are contradictories. The American College of Rheumatology 2012 (ACR) recommends acetaminophen, oral or topical NSAIDs (including COX-2 selective inhibitors) and tramadol for the hand, hip, and knee osteoarthritis; in particular recommends intraarticular corticosteroid injections for the knee and hip. There are lower evidences on the use of hyaluronic acid, chondroitin sulphate and glucosamine (mostly for the initial knee and hip arthrosis).OARSI recommends acetaminophen (paracetamol), cyclooxygenase-2 (COX-2) non-selective and selective oral non-steroidal anti-inflammatory drugs (NSAIDs), topical NSAIDs and capsaicin, intra-articular injections of corticosteroids and hyaluronates, glucosamine and/or chondroitinsulphate for the hip and knee arthrosis treatment."As regards the injection therapy the intra-articular steroid therapy is advised with low level of evidence, while the scientific evidences do not recommend injection to Hyaluronic Acid. The strength of this last recommendation is similar to the oral therapy with glucosamine and chondroitin sulfate and to the acupuncture". Direct or indirect evidence for reduced articular cartilage matrix synthesis and or proteoglycan degradation have been provided both by in vitro and in vivo studies. Corticosteroids have dose- and time-dependent chondrotoxic effects. With the lowest concentration of steroids for the shortest period of time possible it can achieve desired clinical goals.

There are scientific evidences on *dose-* and *time-*dependent cytotoxic effects of Local Anesthetics on the chondrocytes. Adult chondrocytes have little or no capacity to regenerate and therefore our results suggest that high-dose, long-term intra-articular administration of corticosteroids and local anesthetics should be performed with caution. Human data addressing safety and comparability of drugs are needed to assess clinical benefit and harm of intra-articularly injection drugs.

Osteoarthritis (OA)

O-20

ROLE OF PLATELET RICH PLASMA AND VISCO –SUPPLEMENTATION IN MANAGEMENT OF KNEE OSTEOARTHRITIS

Abdel Shafy A. Hasseb Department of Physical Medicine, Rheumatology and rehabilitation, Al Azhar Faculty of Medicine, Cairo, Egypt.

Abstract

Osteoarthritis (OA) is a clinically heterogeneous and poorly understood disease. Although most research has looked at destruction of cartilage, arthritis is now often considered in terms of organ failure.

Intra-articular injection into osteoarthritic joints may play an important role in the therapeutic plan.

Platelets are known to contain at least six growth factors that are vital to bone and soft tissue healing:-

Hyaluronic acid is a large glycosaminoglycan composed of repeating disaccharides of glucuronic acid and N-acetylglucosamine that is naturally occurring in synovial fluid.

Aim of The Work

Evaluation the efficacy of local intraarticular injection of autologous platelet rich plasma in comparison to intraarticular hyaluronic acid injection in patients with knee OA

Patients and methods

60 patients suffering from knee osteoarthritis were classified into 3 groups, the first group include 20 patients which received intraarticular injection of autologous platelet rich plasma of various concentrations, the second group include 20 patients which received intraarticular injection of Hyaluronic acid (Hylans) and the third group include 20 patients which received intraarticular injection of placebo (saline).all groups injected 3 times with one week interval.

Results

Evaluation of patients of 3 groups before the treatment and at 2 weeks after the 3rd injection showed a significant decrease of pain using VAS scale, significant decrease of stiffness, significant increase of range of motion using geneometer and significant increase of physical function. but the autologous PRP injections showed more efficacy than HA injections in reducing pain and symptoms and recovering of articular function

O-21

REHABILITATION OF PATIENTS WITH KNEE OSTEOARTHRITIS

Tarek S. Shafshak, MD

Professor of Physical Medicine, Rheumatology & Rehabilitation Faculty of Medicine, Alexandria University, Egypt **Abstract**

The knee joint is the most common joint to suffer from osteoarthritis (OA). This is because the knee joint is a weight bearing joint; and is exposed to stresses that accelerate degenerative changes. Furthermore, the knee chondrocytes have more interleukin 1 receptors than ankle chondrocytes; and express mRNA for matrix metaloproteinase-8 (unlike ankle chondrocytes). All these factors contribute to OA. It was reported that OA is the leading cause for impaired quality of life, increased health care utilization and increased physical disability in industrial societies. Therefore, proper management and rehabilitation of knee OA are important to prevent disability.

In the rehabilitation of patients with knee OA, we have to start by patient's clinical and functional **evaluation** to determine the major factors contributing to the patient's problem (e.g. pain, synovitis, joint instability, joint deformity or stiffness, muscle weakness, overweight, comorbidities,...). Then, we design the rehabilitation plan, which may be specific for each individual. The rehabilitation plan usually includes specific joint treatment; life style changes and environmental modifications. **Specific joint treatment** usually includes physical agents' modalities, exercise therapy, analgesics, NSAIDs, chondroprotective agents, intra-articular injections and knee braces. Knee arthroplasty may be needed in advanced knee OA. **Life style changes and environmental modifications** aim at decreasing stresses on the knee joint during daily activity. They include reduction of body weight, use of assistive devices, shoe modifications, home modifications, the use of mobility aid and modification in social & recreational activities; as well as vocational counseling.

Osteoarthritis (OA)

O-22

REHABILITATION OF PATIENTS WITH OSTEOARTHRITIS OF THE HANDS AND FEET

Prof. Nicolas Christodoulou MD, PhD, SPRM(GR), Life Fellow EBPRM. Limassol Centre of Physical & Rehabilitation Medicine European University Cyprus – School of Sciences – Dept. of Health Sciences, Cyprus.

Abstract

Osteoarthritis, also known as degenerative arthritis, may affect one or more joints anywhere in the body. The joints most often affected are the hands and the weightbearing joints of the lower extremities (knees, hips, feet). In osteoarthritis, there is a steady worsening and decline of joint cartilage. It affects only particular joints and not the rest of the body.

The onset of osteoarthritis is usually related to aging, but other factors can be involved. Joint instability and misalignment affect both the distribution of forces across the joint and may lead to degeneration. Risk factors for osteoarthritis include heavy usage and traumatic injuries that result in joint irregularities. Some people may inherit genes that may predispose them to develop osteoarthritis earlier in life or in uncommon joints. This presentation focus on the rehabilitation of OA of the hands and feet.

For the management, the PRM specialist has the responsibility for the Rehabilitation program. He prescribes appropriate medications or uses several means of rehabilitation. He educates and coordinates the Rehabilitation team, which is consisted, besides the PRM specialist, from the patient and his/her family, the physical therapist, the occupational therapist, the nurse, the psychologist, the dietician and the social worker.

At the presentation, the characteristics and the goals of the joint Rehabilitation program are described; the several means (heat, cold, hydrotherapy, exercises, rest, mechanical agents and education) used for joint rehabilitation are explained in details with their effects; emphasis is given to educate and support the patient with devices for the activities of daily living, mobility devices, transportation aids and splints-braces.

O-23

COMORBIDITY AND OUTCOMES AFTER STROKE

Bacikin R, Naumović N. Special Hospital for rehabilitation "Rusanda" Melenci , Serbia.

Abstract

BACKGROUND AND PURPOSE. Stroke is the most common cause of disability or dependence in activities of daily living among elderly. The goal of rehabilitation is to enable elderly patients to return as closely as possible to their premorbid functional status. Prediction of activities of daily living function at an early stage enables clinicians to select treatment programs. Comorbidity are very common among patients after stroke. The most frequent comorbid condition are hypertension, hyperlipidaemia, diabetes mellitus, atrial fibrillation, coronary artery disease , angina, myocardial infarction, significant arrhythmia and congestive heart failure.

THE AIM of this study was to establish whether the presense of comorbid deseases have influence in the length of medical rehabilitation or could be the predictor of outcome in functional stroke recovering.

METHODOLOGY. The study involved sixty patients who participated in prospective, comparative study. They were divided into two groups. They were all admitted to the Special Hospital "Rusanda", Melenci. Patients had unilateral hemispheric lesion after first inset of cerebrovascular accident. The clinical diagnosis of stroke was confirmed by neuroimaging examination (CT/MRI). Data were collected at 14 days after stroke and 2 month after stroke. One of them involved patients with sever comorbidity, while the other involved ones without. Frequencies of comorbid conditions: Hypertension 96,66%, atrial fibrillation 33,3%, congestive heart failure 23,3%, diabetes mellitus 53%.

Functional recovery of patients was compared in both groups at the end of physical tretment. Functional disability was assessed using the Rivermead mobility index (Lincoln,Leadbitter 1979.)and Barthel Index (Mahoney FI,Barthel O.1965). Patients from both groups were treated with kinesy and occupational therapy.The data were collected and presented by t test for numerics parametars. Statistical analyses were performed using the SPSS 10.0

RESULTS. Hemiparetic patients from group with comorbid deseases stayed longer in rehabilitation ward and had worse functional outcome. **CONCLUSION.** Comorbidity is in close positive corelation to the final level of functional ability of patients and have the improtant predictive value.

Key words: Stroke, comorbidity, functional outcome, activity of daily living

O-24

HEALTH RELATED QUALITY OF LIFE IN STOKE SURVIVORS: CLINICAL, FUNCTIONAL AND PSYCHOSOCIAL CORRELATE.

Safaa A. Mahran ^{1,2},MD, Mohamad A. Abdulrahman²,MPT, Fadwa S. Janbi², EMHA, Rawabi A.Jamalellail²,MD

¹Department of Physical Medicine, Rheumatology and Rehabilitation, Faculty of Medicine, Assiut University, Assiut , Egypt. ²Department of Physical Medicine and Rehabilitation, Faculty of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia.

Abstract

Objectives: to examine global and disease specific health related quality of life (HRQOL) in stroke survivors attending an outpatient rehabilitation clinic and to examine the relation between some clinical variables and HRQOL.

Subjects and methods: In this prospective ,observational study,64 stroke survivors were enrolled. Demographic data were obtained using structured questionnaire. The functional level of the patients was assessed using Barthel index(BI). HRQOL was measured by two scales: the short form-36 (SF-36) and the Stroke Specific Quality of Life Scale (SS-QOL).

Results: Our patients' ages ranged from 42 to 95 years (mean= 60.81) , males represent81.2% of them. Low mean scores of all the 8 domains of SF36 are found ,with the role physical being of the lowest mean (14.06 ± 29.50) while the mental health domain has the highest mean of (54.13 ± 22.10) . The 12 domains of SSQOL showed different degrees of deterioration in their means. Statistically significant differences between the means of mobility level, upper and lower limb voluntary control with the means of both SF 36 and SSQOL were found in favor of functional independency and full control of the limbs (p<0.05). Mobility level, voluntary control of the limbs and BI showed significant positive correlation with both SSQOL and physical component of SF 36 while the mental component of SF36was significantly correlated with the comorbidity and upper limb voluntary control only. Multiple regression analysis showed that BI score, , nature of stroke and comorbidity were the most significant predictors of the SSQOL, with p values of 0.004, 0.013 and 0.047 respectively.

Conclusion: It is concluded that HRQOL is impaired in Stroke survivors and that functional level is the most significant predictor of it. We recommend considering the assessment of HRQOL in stroke survivors undergoing rehabilitation management as it is more relevant to the patients.

Key words: Stroke, Quality of life, stroke specific quality of life scale, Short form 36 scale

O-25

ELECTRONEUROLYSIS & MOTOR REHABILITATION

Aleksandar Raicevic Institute for physical medicine, rehabilitation and rheumatology Dr Simo Milosevic, Igalo, Montenegro.

Abstract

Objective: Holistic approximation of motor control, estimated through neuromorphological model (neuraxeg. classification of Jakovljev-Brooks), allows us monitoring data that come from sampling and makes their validation as proper. This kind of clinical neuro-experimental model makes diagnostic such as therapeutic prerequisites, for evidence based practice, in neurorehabilitation.

Methods: Clinical investigation involved cohort of 30 di-/hemiplegic, origin from ICV/TBI, were chosen after selection on the basis of the own criteria (13 female and 17 male persons, with medium age of 60 age). Neuronal circuits, elicited by low frequency-high intensity, TENS vs FES, activates the opioidal (analgesic) projections, situated in reticular formation of medulla oblongata and diencephalon. Similarly, it activates long-loops of secondary reflexes, responsible for evoking, motor distal and similar synergies.

Results: In mathematical elaboration of FIM-test, there is presence of both interreactions, by magnitude and by direction. Along the magnitude, that arithmetical mean value, for all elements of FIM-test, is ascending. In time interval I,that is in the beginning of the treatment, it is near the axis of apscisa, and that is the lowest value, after which it is climbing and is going, far away, of apscisa, till thetime interval IV at the end of treatment. The fact that curve is lowest in interval I and highest in interval IV give clearly evidence, that the proceeding therapeutic benefit is achieved.

Conclusions: With electrotherapeutical evoked sensorimotor gain, connected with amplified neurophysiological capacity of monoaminergic pathways (phylogeneticlly eldest), such as group III of fibers (according to Kuypers) to re-learn motor programs, that release the brain of having calculate, the consequence of many combinations of muscles and which exemplify the concept of the economy of hierarchical function in CNS and manage to restore motor schemas and it's execution.

aleksandar.dr.raicevic@gmail.com

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POSTURAL CONTROL IN STROKE PATIENT

Zohra Ben Salah Frih, Soumaya Boudokhane, Houda Migaou, Sana Salah, Anis Jellad Department of Physical Medicine and Rehabilitation, Monastir Teaching Hospital, Monastir Tunisia.

Abstract

Background: postural problems are common following stroke and can resulting in a high incidence of falls particularly in those patients with motor, sensory, cognitive and emotional impairments.

Objective: to describe postural control after stroke and its impact on independence social participation and quality of life.

Method: 31 right-handed patients (mean age 61.3 years) were assessed at the beginning, 30 and 90 days following stroke using trunk control test, postural assessment scale for stroke and Bourges index), motricity index, Ashworth scale, New Functional Ambulation Categories, Mini Mental Status Examination and Reintegration to Normal Living Index.

Results: 87% ischemic stroke, 54.8% had right hemiparesis and 32.3% with right hemispheric stroke. The TCT was initially deteriorated (78, 3/100) testify the early disability of postural control. a high correlation with the PASS, NFDC, FILM in the locomotion domain and RNLI in the daily activity domain was noted at 1st and 3rd months. The postural control evaluation (PASS, EPA, EPD) shows the highest correlation with lower limb spasticity, the NFAC, FMI, locomotion domain and with the RNLI daily activity domain. The MMSE score was also much correlated to TCT and FIM locomotion domain. The site of the brain lesion was negatively affected to the value of TCT and PASS.

Conclusion: a majority of patients have found the ability to walk in spite of persistence the postural disorder at different times of evaluation. The impaired postural control has the greatest impact on activity of daily living and gait. Postural control is the best predictor of achieving independent living. 0-27

THERAPEUTIC APPLICATION OF FUNCTIONAL ELECTRICAL STIMULATION AND TRANSCRANIAL MAGNETIC STIMULATION IN REHABILITATION OF HAND FUNCTION IN INCOMPLETE CERVICAL SPINAL CORD INJURY

Fatma Kamel, Ahmad Yasaki, Heba Sheshtawi and <u>Shereen Fawaz</u> Department of Physical Medicine, Rheumatology and Rehabilitation, Faculty of Medicine, Ain Shams University, Cairo, Egypt.

Abstract

Background: Functional electrical stimulation therapy (FET) has a potential to improve voluntary grasping and induce plastic changes among individuals with tetraplegia secondary to traumatic spinal cord injury (SCI). Evidence suggests that the use of high frequency rTMS can improve hand function in persons with cervical incomplete spinal cord injury.

Purpose: Our randomized controlled trial was carried to compare between the two rehabilitation programs FES and rTMS versus FES alone, as regards hand function in chronic traumatic incomplete cervical SCI patients

Methods: Our study included 22 patients with chronic traumatic incomplete SCI, Patients were randomly assigned into two groups, each 11 patients. Group I patients received FES for 12 weeks and additional real rTMS therapy in the last two weeks, at 10 Hz frequency, sub-threshold intensity for a total of 1500 pulse per session for 10 sessions over two weeks. Group II patients received FES for 12 weeks and additional sham rTMS therapy in the last two weeks. All followed by intensive hand training. Patients were assessed using hand function tests (ARAT, mSHFT, nine hole peg board scale and finger tapping test).

Conclusion: Our study showed statistically significant improvements in hand function tests in group I who received FET in addition to real rTMS therapy in comparison to group II, who received FET in addition to sham rTMS at 12 weeks assessment, which could support the evidence of the additional benefit of real RTMS therapy in improving hand function and motor recovery following SCI.

shereen_fawaz@yahoo.comemail

Neurorehabilitation and Spasticity Management

O-28

MORBIDITY ASPECTS IN SPINAL CORD INJURY WITH INSIGHTS INTO THE TRANSPLANTATION OF STEM CELLS IN THE INJURED CORD.

Dr Ali H. Otom

President of Jordanian Association for Spinal Cord Injury Care (JASCIC), S. Consultant in SCI & Head of Spinal Unit, King Hussein Medical Center, Amman-Jordan. E-mail: aliotom@hotmail.com

Abstract

Background: Spinal Cord Injury (SCI) is one of the most devastating injuries that afflict young people at the height of their social and working life. It is a multi-system injury which leads to a significant morbidity and mortality. SCI repair is one of the biggest challenges in modern medicine and this complex human experiment in neural repair for SCI individuals must be proven safe and effective by the highest standard evident-based medicine.

Objective: This study aims to ascertain the morbidity trends in individuals with Spinal Cord Injury (SCI) and its association with demographic characteristics and treatment modalities.

Methods: The medical records of 190 patients with SCI who were admitted during 2006-2011 were enrolled in this study. Their demographic data, causes of injury and mode of treatment were analyzed.

American Spinal Injury Association (ASIA) impairment scale was used to categorize injury level and severity.

The causes of morbidities surveyed were; cardiovascular, respiratory, renal complications, pressure sores, spasticity and neurogenic pain.

Results: A total of 190 cases were reviewed. The majority were predominantly males (80%).

The male/female ratio was 4:1 the mean age at the time of injury was 32 years range from (13 - 70 years). The vast majorities were traumatic causes (88%) and road traffic accidents were the main cause of their injury. non-traumatic causes were recorded in 12% of the cases.

Of all the morbidities studied, pain was the dominant cause (45%) followed by urinary tract infection (30%), pressure sores (25%), spasticity (23%), thromboembolic complications (18%) and respiratory complications (10%). Among the few cases of chronic SCI patients who opted for stem cell trial outside our center perioperative morbidity and lack of significant functional outcome were documented.

Conclusions: The most common cause of morbidity was neurogenic pain followed by urinary tract infection. This study showed that traumatic causes and particularly road traffic accidents are the leading cause of Spinal Cord Injury in Jordan.

Stem Cell Transplant is still limited in Jordan as neither national nor international standards are yet implemented. Systematic preclinical studies are needed to establish and optimize therapies for clinical trials.

Neurorehabilitation and Spasticity Management

O-29

CLINICAL MANAGEMENT OF DYSPHAGIA

Gihan Omar, MD

Department of Rheumatology & Rehabilitation Minia University, Egypt

Abstract

Eating and swallowing are complex behaviors involving volitional and reflexive activities of more than 30 nerves and muscles. They have two crucial biological features; food passage from the oral cavity to stomach and airway protection. The swallowing process is commonly divided into oral, pharyngeal, and esophageal stages according to the location of the bolus. The movement of the food in the oral cavity and to the oropharynx differs between eating solidfood and drinking liquid. Dysphagia can result from a wide variety of functional or structural deficits of the oral cavity, pharynx, larynx or esophagus.

Difficulties with swallowing may be both persistent and life threatening for the majority of those who experience it irrespective of age, gender, and race. The quality of life of those who experience swallowing difficulties is poor. Dysphagia after stroke can result in aspiration pneumonia, malnutrition and deleterious outcome. The goal of dysphagia rehabilitation is to identify and treat abnormalities of feeding and swallowing while maintaining safe and efficient alimentation and hydration.

Geriatric & Cancer Rehabilitation

O-30

THE ROLE OF PHYSICAL MEDICINE AND REHABILITATION SPECIALIST IN CANCER MANAGEMENT TEAM.

Prof Gulseren Akyuz, M.D.

Marmara University School of Medicine, Department of P.M.&R. Istanbul, Turkey

Abstract

The incidence of cancer is increasing and nowadays cancer has been considered as a chronic disease. In various stages of cancer, the patients can have many physical, functional and psychological problems which are related to cancer itself or its treatment. Cancer rehabilitation can be described that is a process to restore physical and/or mental, psychological abilities due to the disease or its complications, and side effects of therapies in order to function in a normal or near normal way.

Factors increasing the success of cancer rehabilitation are as follows: Interdisciplinary collaboration, comprehensive approach, patient and patient's family education and early treatment. Cancer rehabilitation programs can be conducted on an inpatient or outpatient basis. Many skilled professionals are part of the cancer rehabilitation team, including any/all of the following: Physiatrist, Oncologist, Internist and related physicians, Rehabilitation nurse, Dietitian, Physical therapist, Occupational therapist, Social worker, Psychologist/psychiatrist, and Recreational therapist. There are 4 stages in the cancer rehabilitation. In the preventive stage, preventive interventions lessen the effect of expected disabilities and emphasize patient education.

Preventive measures also include approaches to improving the patient's physical functioning and general health status. In addition, psychological counseling before treatment can assist with the early identification of adjustment issues to allow for prompt intervention. In the second stage, restorative interventions are procedures that attempt to return patients to previous levels of physical, psychological, social, and vocational functioning. In the third stage, supportive stage, the loss of function, and some disabilities happen. Supportive efforts include teaching patients how to use prosthetic devices after amputation, as well as instructing the patient on use of other devices and procedures that assist in self-management, self-care abilities, and independent functioning. Other supportive efforts include provision of emotional support associated with adjustment issues while the patient is learning to cope with physical lifestyle changes. Palliative stage is the terminal stage.

Many patients with advanced cancer undergoing chemotheraphy can benefit from physical therapy techniques at this stage. During the palliative phase, when increasing disability and advanced disease process may be present, interventions and goals focus on minimizing or eliminating complications and providing comfort and support. Palliative goals include pain control, prevention of contractures and pressure sores, prevention of unnecessary deterioration from inactivity, and psychological support for the patient and family members. There are many factors of cancer related disability. The list of disabilities due to cancer has been listed below:

- 1. Pain
- 2. Immobilization
- 3. Lymphedema
- 4. Nervous system involvement
- 5. Myopathy
- 6. Bone involvement
- 7. Anemia
- 8. Nutritional disorders
- 9. Psychosocial impairments
- 10. Sexual problems

Cancer rehabilitation aims to control pain, to help patients return to the highest level of function, increase quality of life, and adapt the patient to new life style. These goals are often met by managing pain; improving bowel and bladder function, nutritional status, physical conditioning, endurance, and exercise performance. social, cognitive, emotional, and vocational status, and reducing hospitalization.

In order to help reach these goals, cancer rehabilitation programs may include such as using medications and pain management techniques to reduce pain; exercise programs to help build strength and endurance; patient and family education and counseling; activities to improve mobility (movement) and decreases leap problems; assistance with activities of daily living (ADLs) such as eating, dressing, bathing, toileting, handwriting, cooking, and basic housekeeping; smoking cessation; stress, anxiety, and depression management; nutritional counseling; management of chronic illness or complications due to cancer treatments; and vocational counseling. We should not forget that the goals should be OBJECTIVE, REALISTIC and ACCESSIBLE.

Geriatric & Cancer Rehabilitation

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THE IMPACT OF KNEE OSTEOARTHRITIS ON THE FUNCTIONAL STATUS OF THE LOWER LIMBS IN AMBULATORY STROKE PATIENTS

Tarek S. Shafshak¹, Enas E. Shahine¹, Nashwa A. Abd Elsatar¹

Department of Physical Medicine, Rheumatology and Rehabilitation¹, Faculty of Medicine, Alexandria University, Egypt.

Abstract

Introduction: Stroke is the third most common cause of death and a leading cause of adult disability worldwide. Knee osteoarthritis (OA) is the most common form of arthritis in older persons; meanwhile stroke prevalence is much higher in elderly than young individuals. Both knee OA and stroke are disabling disorders which limit the ambulation and activities of daily living in elderly persons. Osteoarthritic knee pain may interfere with stroke rehabilitation gain and functional recovery.

Aim of the work: To study the impact of knee OA on the functional status of the lower limbs in ambulatory stroke patients.

Subjects: The study included 25 hemiparetic ambulatory stroke patients with symptomatic knee OA aged 47-62 years.

Methods: All patients were subjected to collection of: 1) demographic data, 2) history of illness, 3) neurologial examination, 4) local knee examination, 5) knee pain severity assessment using visual analogue scale (VAS) and verbal rating scale (VRS), 6) Fugl-Meyer assessment of Physical Performance of the lower limbs (FMLL), 7) assessment of the 10-meter Walking Time (10mWT); and 8) plain X-ray for their knees scored by Kellgren and Lawrence (KL) scale. Then, intramuscular (IM) injection of one ampoule of diclofenac potassium (75 mg) was given. One hour after injection, reassessment of VAS, VRS, 10mWT and FMLL was done.

Results: One hour after diclofenac potassium injection, knee pain severity decreased significantly (as assessed by VAS and VRS) in either the hemiplegic or the non-hemiplegic side (p< 0.001). Also, the walking time decreased by 3-25% and this was significant.

Conclusion: Diclofenac potassium injection significantly improves osteoarthritic knee pain and decreases the walking time. This suggests the role of osteoarthritic knee pain on decreasing lower limb function among stroke patients.

Geriatric & Cancer Rehabilitation

O-32

CONCEPTS IN GERIATRIC REHABILITATION: EGYPTIAN CONSIDERATION

Hamdy Koryem, MD

Professor of Physical Medicine, Rheumatology & Rehabilitation, Alexandria University, Egypt.

Abstract

Objective: Introducing the difficulties facing Egyptian elderly people to lead independent life.

Introduction: In response to the needs and demands of an aging population, geriatric medicine has grown rapidly during the past 3 decades. The discipline has defined its core values as well as the knowledge base and clinical skills needed to improve the health, functioning, and well-being of older persons and to provide appropriate palliative care. Geriatric medicine has developed new models of care, advanced the treatment of common geriatric conditions, and advocated for the health and health care of older persons. Nevertheless, at the beginning of the 21st century, the health care of older persons is at a crossroads. Despite the substantial progress that geriatric medicine has made, much more remains to be done to meet the healthcare needs of our aging population. The clinical, educational, and research approaches of the 20th century are unable to keep pace and require major revisions. Maintaining the status quo will mean falling further and further behind. The healthcare delivery and financing systems need fundamental redesign to improve quality and eliminate waste. The high incidence lvels of comorbidites, cognative deterioration, depression, lake of motivation, as well as low educational levels constitutes major challenges for elderly Egyptian care giver. On the same coin side, social support, environment, insufficient access to geriatric care and low income rates are another set of challenges of similar level of importance.

O-33

REHABILITATION AFTER JOINT ARTHROPLASYTY

Prof. Ziad Hawamdeh

Professor of Physical Medicine and Rehabilitation, Faculty of Medicine. The University of Jordan, Amman, Jordan

Abstract

Total joint replacement represents a significant advance in the management of disabling joint pain as a result of primary or secondary O.A. surgery can be performed on any joint of the body, including small and large joint. Among these procedures, hip and knee total joint replacements are the most common and rehabilitation is of utmost importance. The number of joint replacements that are performed annually has been increasing steadily. The number of surgeries performed for joint replacement increases annually and the indications extend to younger as well as older patients.

Based on existing research, both interventions are safe and cost-effective treatment for pain relief and restoring physical activity in patients who do not respond to conservative therapies. There are few precautions and contraindications to this surgery as it is currently used. Overall, they have been shown to be a very successful, relatively low-risk therapy despite variations in patient health status and characteristics, type of prosthesis implanted, orthopedic surgeons, and surgical facilities. Improvements can be made in overall success of surgeries by addressing each of these areas of variation through further research.

Postoperative rehabilitation is very important in order to ensure pain-free function of the joint and improve the patient's quality of life and to reduce the risk of postoperative complications which are common and can be life threatening in certain cases. Rehabilitation should start before surgery by preoperative patient education, preoperative exercise program and precautions after surgery and continues postoperatively to reduce the risk of complications, control postoperative pain and to improve range of motion and muscle strength and functional rehabilitation to achieve maximal possible level of functional recovery and improve the quality of life.

O-34

BALNEO-CLIMATOLOGICAL FACTORS AND RESOURCES AT THE DEAD SEA AREA FOR TREATMENT OF PSORIASIS AND PSORIATIC ARTHRITIS

Dr. Khalil H. Al-Abbadi Arab center for PMR, Amman, Jordan

Abstract

A complete study for climate factors and natural agents available in Jordan which may be used in Balneo Climatic Therapy

- Concerning the climate in Jordan classified in general as Mediterranean climate (Macro climate) and particular as local climate (Micro climate). Four types of climate have been mentioned (under sea level, sea level, mountain, desert climate).
- Concerning natural agents they are classified as two types (Natural mineral water and Mud).

As for mineral water it has been classified from the physical point of view as the following: hypothermic, thermic, hyperthermic water and from the chemical point of view as: sulfanic water, carbonic water, Radon water.

The mud has been classified into two types: (organic mud and inorganic mud).

Special characteristics of the Dead Sea Region it has been proved their positive benefit results for psoriasis, certain rheumatic disease, certain locomotor and respiratory system.

O-35

EFECTS OF BALNEOYHERAPY ON BALANCE IN ELDERLY PATIENTS AFTER HIP FRACTURE

Radosavljevic N, Cutovic M, Lazovic M. Institute for Rehabilitation, Belgrade-Serbia

Abstract

Purpose/aim

The purpose of this study was to evaluate effectiveness of balneotherapy procedures on restoring balance in patients above 65 years of age after hip fracture.

Participants and methods: We have evaluated 203 patients that were referred to Institute for Rehabilitation in Belgrade for rehabilitation treatment after hip fracture. Eligible participants were divided into two groups: Group 1 (N=91) included patients that were introduced with balneotherapy procedures and Group 2 (N=112) included patients that were introduced into rehabilitation program without balneotherapy. The type of rehabilitation program was determined by physician, specialist of physical medicine and rehabilitation. Balance functioning was measured by Berg Balance Scale (BBS). They were analysed on admission (G1), at discharge (G2), 3 months post discharge (G3) and 6 months post discharge (G4). Statistical analysis was performed using Student's t test and uni-factorial ANOVA test.

Results : Our rehabilitation program showed significant improvement in balance restoration measured by BBS for patients in both groups in observed periods (p<0.001). Comparing BBS score in Groupe1 and Group2 during the study, we found out that BBS Score G2/Group1 was 38,58 (SD 3,87) and in Group2 30,46 (SD 6,75) (p<0.001). Further results showed even bigger difference as BBS score in G3/Group1 was 44,29 (SD 5,81) and G3/Group2 was 32,62 (SD 10,01) , p<0.001 and G4/Group1 was 48,73 (SD 5,29), G4/Group2 34,13(SD 11,33), p<0.001. In the end of observed period average BBS score for patients in Group1 was in low fall risk zone, and for patients in Group2 in medium fall risk zone.

Conclusion(s)

Application of balneotherapy along with other rehabilitation procedures for older patients after hip fracture significantly improves recovery of balance even in the post discharge period. Therefore, it is recommended that balneotherapy should be included into rehabilitation program of elderly after hip fracture.

E-mail: dr.natasa.radosavljevic@gmail.com

O-36

EXTRINSIC AND INTRINSIC FACTORS FOR FALLS THAT CAUSED HIP FRACTURE

Atzmon Tsur¹, Arkady Galin¹, Nael Shakeer¹, Zvi Segal², Dorit Itah³, Dana Eluz³ Rehabilitation department¹, Ophthalmology department², and Occupational therapy unit³ GalileeMedicalCenter, Nahariya And the BarIlan University Faculty of Medicine, Safed.

Abstract

Background: Among the reasons described as possibly causing falls in older and elderly people are extrinsic factors such as bumping into objects, slipping on a wet floor, etc., and intrinsic factors – those that occur suddenly without warning.

Methods: The survey included 82 people, 53 women and 29 men, who fell and broke their hip, underwent surgery, and were treated in the Rehabilitation Department. Data showed that 39 people fell due to extrinsic factors and 43 due to intrinsic reasons. We examined the correlation with several factors, both medical and non-medical, that may have influenced the scenario of each group.

Results: Falls due to extrinsic reasons took place at all hours of the day and night, mainly in people who were alone and who wore shoes or sandals at the time of the fall, and who either suffered from slight or no disturbances in attention and concentration. Falls due to intrinsic reasons occurred mainly during rest or sleep hours, in people who walked barefoot or with socks or slippers, and who suffered moderateor severe disturbances in attention and concentration.

Conclusions: Although the differences in the extrinsic vs. intrinsic reasons for fall that led to broken hip were fairly clear, it would be difficult to recommend new tools for prevention of this phenomenon.

Key words: falls, hip fracture, extrinsic and intrinsic reasons

O-37

PLATELET RICH PLASMA IN SPORT INJURIES

Ali El-Deeb

Professor of Physical Medicine & Rheumatology Faculty of Medicine, Tanta University, Egypt.

Abstract

Introduction: Platelet rich plasma (PRP) is a component of your blood (plasma) with concentrations of platelets above normal values. PRP typically contains 3-8 times the concentration of normal platelet levels. After injury, platelets are on the front line of the healing response and play a critical role by releasing growth factors. These growth factors influence tissue repair in a variety of different cell types including tendon, muscle and cartilage cells. Its usage in the treatment of musculoskeletal injuries and sports medicine has increased over the past decade.

Aim: The aim of this review is to raise awareness about the efficacy of PRP in sport & musculoskeletal injuries.

Participants and methods: Literature review was done for papers that addressed the definition and effect of PRP &its role in the treatment of different sport injuries.

Results: The effects in PRP in the different types of injuries (including rotator cuff injury, tennis elbow, golfer's elbow, patellar tendon & tendoachilis injury) were promising. How is PRP prepared? How PRP is administered? What are the risks? What conditions are commonly treated with PRP therapy? All these questions will addressed in the text.

Conclusion: There is strong theoretical arguments and laboratory evidence suggesting that PRP can significantly improve tissue healing.

Email: dr_alideeb@yahoo.com

O-38

AGE AND GENDER DIFFERENCES IN FUNCTIONING, DISABILITY AND HEALTH (ICF) OF CHRONIC LOW BACK PAIN PATIENTS

<u>E. Fehrmann¹</u>, S. Kotulla¹, K. Tuechler¹, T. Kienbacher¹, P. Mair², J. Kollmitzer³, G. Ebenbichler⁴.

¹Institute for Outpatient Rehabilitation Research, Karl-Landsteiner-Institute, Vienna, Austria.

²Department of Psychology, Harvard University, Cambridge, USA. ³Department of Biomedical

Engineering, University of Applied Sciences, Vienna, Austria. ⁴Department of Physical Medicine and Rehabilitation, University Hospital of Vienna, Vienna, Austria.

Abstract

Aim/Purpose: The ICF core set for low back pain (LBP) serves as a standard for multiprofessional, comprehensive assessment. It remains widely unclear if age and gender would affect the relevance of the different categories of the core set. The aims of the study were to investigate the importance of the ICF core set for LBP, additional ICF categories, and to evaluate the personal factors of age and gender.

Participants and methods: After providing informed consent, 245 patients with chronic LBP participated in the study (52% female; age 49 ± 17.8). ICF trained psychologists interviewed the patients with the comprehensive ICF core set for activities and participation and environmental factors. Based on a literature review seven further ICF categories were included to the interview. Categories were considered to be important, if more than 30% of the patients rated them as limiting, or as a facilitator/barrier. Statistical analysis included frequency distributions and two-way MANOVA to explore age and gender differences.

Results/Conclusions: Patients' ratings revealed significant age and gender differences for activities and participation. For instance older patients reported significantly higher levels of physical disability, while younger patients seem to have more problems in participating in community life. All of the environmental factors were classified as relevant, with "health professionals" and "health services" reported as the most important facilitators. In addition to the core set, "friends" and "individual attitudes of friends" were considered as relevant facilitators, and "technology for communication" as one of the strongest barriers. However, there were no significant age or gender differences observed for the environmental factors. Assessing chronic LBP using the ICF, age and gender differences should be considered, especially for activities and participation. In addition to the core set, the categories "friends", "individual attitudes of friends" should be included into the list of environmental factors.

Keywords: ICF, age, gender

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O-39

THE HEALING EFFECTS OF PROLOTHERAPY IN TREATMENT OF KNEE OSTEOARTHRITIS

Nahed Sherif, Abeer Zoheiry & Dina Solaiman. Physical Medicine, Rheumatology & Rehabilitation Department, Ain Shams Faculty of Medicine, Cairo, Egypt. Email: dr.dinasoliman@gmail.com

Abstract

PURPOSE Prolotherapy is an injection therapy for chronic musculoskeletal pain. We conducted a 2-arm controlled trial to assess the efficacy of prolotherapy in the treatment of knee osteoarthritis (OA).

METHODS One hundred and four (104) adults with at least six months of painful primary knee OA were treated with dextrose prolotherapy (group I). They were divided into 2 sub-groups "Ia and Ib". Sub-group "Ia" was treated with both techniques of prolotherapy [Hackett Technique "Classic, Traditional Prolotherapy"] and [Lyftgot Technique "Neural Prolotherapy" -NPT-]. Subgroup "Ib" was treated with [Hackett technique] only. Extra- and intra-articular injections were done at 1, 2 and 3 months with as needed additional treatments at months 4 and 5. Twenty four (24) adults with at least six months of painful primary knee OA were treated with physiotherapy (group II). Outcome measures included clinical assessment, (VAS, 0-10); (WOMAC, 96 points); plain x-rays and musculoskeletal ultrasound. Post- procedure hot packs were applied and at-home massage and exercises were taught.

RESULTS Patients enrolled in the study were matched with each other for gender, age, disease durations and BMI. At month 12, "group I" reported a statistically high significant improvement regarding the clinical assessment, VAS, WOMAC and radiological assessment compared to "group II" as well as compared to their baseline at month 0 ($P \le 0.001$). All through the year, sub-group "Ia" was reporting a statistically high significant improvement regarding the clinical assessment, VAS and WOMAC compared to sub-group "Ib". At month 12, the mean \pm SD of VAS was 0.32 \pm 0.27 for "sub-group Ia", 0.44 \pm 0.5 for "sub-group Ib" and 9.9 \pm 1.65 for "group II", and the mean \pm SD of WOMAC was 11.32 \pm 10.3 for "sub-group Ia", 18.5 \pm 10.25 for "sub-group Ib" and 79.5 \pm 22.63 for "group II". Post-procedure application of hot packs, massage and paracetamol resulted in diminution of injection-related pain. There were no adverse events.

CONCLUSIONS: Prolotherapy treatment is a line of conservative therapy that gives positive and promising results for the patients more than Physiotherapy. Prolotherapy improved knee OA as it stimulated the regeneration of ligaments, tendons and articular cartilage, consequently it decreased chronic knee pain, increased knee stability and function. Plain x-rays showed that Prolotherapy improved the grades of knee OA. Musculoskeletal ultrasound showed that Prolotherapy decreased the ligament and tendon dimensions and increased the articular cartilage thickness. Combining LYFTOGT with HACKETT techniques gave quicker and better improvement than applying HACKETT technique only.

Rehabilitation in Cardiovascular & Metabolic Disorders

O-40

THE IMPORTANCE OF DESIGN EXERCISE TRAINING IN CARDIOVASCULAR REHABILITATION

Milica Lazovic, MD Medical faculty University of Belgrade, Serbia

Abstract

Exercise training (ET) is one of the most important methods in cardiac rehabilitation and is defined as the systematic physical activity of greater than normal activity.

The beneficial effects of cardiac rehabilitation based on ET are reflected in the reduction of cardiovascular risk factors, improve functional capacity, increase tolerance to stress, improve quality of life and reducing morbidity and mortality in cardiovascular patients. However, there are still many controversies about the optimal characteristics of ET which would realize the greatest effect in this group of patients. Based on the currently available evidence and literature, the recommendations of the European Society for Cardiovascular prevention and rehabilitation have been formulated on the basis of frequency, time and type of physical activity, as well as the security aspects during exercise in cardiovascular patients. Recommendations for the implementation of ET in cardiovascular patients show that must be adapted to the individual capacity and risk in order to achieve and maintain the highest possible level of individual physical abilities. with at least 30-60 minutes of endurance training daily, 3-4 times a week, combined with strength training two times a week. The relationship between the frequency and intensity of ET should help to find sufficiently high intensity training, in accordance with existing risks and limitations that include ischemia and arrhythmia induced by exercise, cardiac function, clinical status after surgery, limiting comorbidities, the basic level of physical fitness, as well as the sex and age of the patient.

Better implementation of cardiac rehabilitation and dose of ET can become a powerful tool for reducing morbidity, mortality, and potential health care costs in cardiovascular patients.

Key words: Cardiovascular disease, Rehabilitation, design of exercise training

Rehabilitation in Cardiovascular & Metabolic Disorders

O-41

REHABILITATION AFTER CORONARY ARTERY BYPASS GRAFT SURGERY

Željana Škarić-Karanikić, Vesna Bokan-Mirković, Sonja Nejkov, Marina Vuković Center for Physical medicine and rehabilitation, Clinical Center of Montenegro

Abstract

Purpose/aim:

Cardiac rehabilitation has been accepted as an integral part of treating patients after cardiac surgery. The aim of the study is to demonstrate the success of rehabilitation of patients after CABG surgery.

Participants and methods:

In this study we have followed 40 patients, 6 women and 34 men. All patients had administered a cardiac rehabilitation program after CABG. In patients we monitored parameters: age, sex, the number of CABG, the number of days of rehabilitation (ND), pulse / minute (p), systolic blood pressure / mmHg (TAS) diastolic pressure / mmHg (TAD) and oxygen saturation (SpO₂), (before/after therapy.), the first day of rehabilitation (FDR) and the last day of rehabilitation (LDR).

Results:

Patients average age 60.10 \pm 8.9, average ND 5:53 \pm 1.06, average number of CABG 2.68 \pm 0.83. Average values STA before/after the FDR; before/after the LDR: (121.20 \pm 14.75) / (124.82 \pm 11.25); (127.95 \pm 14.67) / (130.85 \pm 14:59). Average values DTA before/after the FDR; before/after the LDR: (63.68 \pm 12.92) / (65.65 11. \pm 46); (71.85 \pm 11.01) / (73.62 \pm 9.77). The average value of the pulse before/after the FDR; before/after LDR: (88.00 \pm 09.01) / (90.88 \pm 10.05); (86.88 \pm 09.06) / (90.15 \pm 8.12). Average SpO2 before/after the FDR; before/after the LDR: (98.40 \pm 2.27) / (97.03 \pm 2:58); (95.60 \pm 2.62) / (96.03 \pm 2.31). By comparing the values of the results STA before/after rehabilitation the first and the last day (t=2.11, p<0.05)/(t=2.20, p<0.05). The results DTA before/after rehabilitation the first and the last day (t=3.205, p<0.05)/(V=234.5, p<0.05). The results p before/after rehabilitation the first and the last day (t=0.670, p>0.05)/(V=463, p<0.05). The results (SpO2) before/after rehabilitation the first and the last day (t=0.670, p>0.05)/(V=463, p<0.05). The results (SpO2) before/after rehabilitation the first and the last day (t=0.670, p>0.05)/(V=463, p<0.001)/(V=629.5, p<0.001).

Conclusion:

Monitored respiratory and hemodynamic parameters were within reference range, confirm the success of early rehabilitation.

Rehabilitation in Cardiovascular & Metabolic Disorders

O-42

PREVENTION AND TREATMENT OF PERSONS WITH DIABETIC FOOT ULCERS REHABILITATION ROLE, AN UPDATE

Assucena A, MD, PhD, Navarro R, MD, PhD. Rehabilitation Department of Hospital of Requena, Spain

Abstract

Introduction: The main complication of persons with diabetes mellitus (PwDM) with diabetic foot (DF) is limb ulceration, leading to limb amputation. Amputation is preceded in 85 % of cases by foot ulcer. Its origin is either neuropathic or ischemic or neuro-ischemic. Specific and common preventive and therapeutic interventions are required for each of them. Preventive interventions have shown to reduce the incidence of foot ulcer. Appropriate therapeutic interventions can lead to healing of foot ulcers. Rehabilitation scope of action may include assessment of risk factors of neuropathic ulcers, prescription and evaluation of appropriate footwear, offloading devices and garments for PwDM with DF (PwDF), with or without any type of ulcer, participation on education for PwDF and their significant others (SO) (1). Objective: to display updated preventive and therapeutic interventions which fall under Rehabilitation scope of action.

Methods: A literature search using multiple literature databases (EMBASE, Scopus, Web of Science, MEDLINE, Cochrane Library) was conducted. The search was limited to original articles, reviews, meeting abstracts, proceeding papers and editorial material, in English, from 2010 to 2015. The search was undertaken using the MESH descriptors *diabetic neuropathy, diabetic foot, foot deformities, soft tissue injuries,* and *pressure*.

Results: It is recommended that

Regarding preventive interventions:

- Neurovascular and vascular status, foot deformity, plantar pressure, footwear and garments will be assessed (1, 2).
- Appropriate footwear and offloading devices according to inspection and biomechanics will be assessed (1, 2).
- Education on self-care will be provided to PwDF and their SO together with education on knowledge and skills to healthcare providers (1). There is limited evidence that PwDF and their SO education alone would achieve relevant reduction on ulcer and amputation incidence (3).

Regarding therapeutic interventions: Individually moulded insoles and fitted footwear will be prescribed and assessed (1).

• Non-removable, pressure relieving casts will be prescribed and assessed on foot ulcers, especially on neuropathic ones (1), as they are more effective in healing DF ulcers than removable casts or dressings (4).

Conclusion; Several foot ulcer' assessment, preventive and therapeutic interventions for PwDF fall under the Rehabilitation scope of action, thus making sense its integration into a comprehensive multiprofessional and interdisciplinary team of DF healthcare.

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P-01

HEALTH -RELATED QUALITY OF LIFE IN FAMILY OF CHILDREN WITH NEUROLOGICAL DIASABILITY

Zohra Ben Salah Frih, Soumaya Boudokhane, Sana Salah, Houda Migaou, Anis Jellad Department of Physical Medicine and Rehabilitation, Monastir Teaching Hospital, Monastir Tunisia.

Abstract

Background: a diagnosis of a long term disability in a child will bring on a major upheaval in the lives of the whole family involved and leads to a long-standing relationship with health care personnel.

Objective: to describe parent's experiences with their child's illness and to report the impact of the handicap on family members.

Method: it was an analytic prospective survey. A self-questionnaire was designed and filled by parents. We assessed parent physical and mental health (SF-12), psychological distress (HAD), perceived impact on daily life, marital and family dynamics (FICD). Different scales were translating on the Arabic language.

Results: 45 families participated in the study. The mean age of parents was 42 years. There are 19 children with cerebral palsy. The cognitive and motor disability was noted on 58% of cases. The FICD positive items were 15/25, and the negative items were 30/40. It suggests the negative impact on the financial and a family's social contact. Mother's physical and mental health score was 40.9% and 39.3%, which is lower than the father (p<0.05), mothers had also a highest risk of anxiety (53%) and depression (24%). The FICD total score, the HAD and the mental health was according to the type of child's disability and the number of children.

Conclusion: this study suggests a considerable negative impact on the family, including emotional responses such as anxiety, sorrow and powerlessness. There also have a feeling that the child's disability dominates the lives of the whole family, in addition to stressors such as increased responsibility and load.

Pediatric Rehabilitation & Spasticity Management

P-02

PREDICTIVE FACTORS FOR PROGRESSION OF ADOLESCENT IDIOPATHIC SCOLIOSIS; A ONE YEAR STUDY

Enas A. El Attar, Nayera Z. Saber, & Dina A. Farrag Physical Medicine, Rheumatology & Rehabilitation, Ain Shams University, Faculty of Medicine, Cairo, Egypt.

Abstract

Background and Objective: The cause of scoliosis remains unknown in 80-85% of adolescent patients. Treatment of adolescent idiopathic scoliosis (AIS) remains a complex challenge. The goal of this study is to evaluate the predictive value of different factors (age, initial Risser's score and initial Cobb's angle, surface electromyography (SEMG) activity of both paraspinal at the apex of the curve),in the progression AIS.

Methods: This study included 30 patients with AIS. Full history taking, spinal and neurological examinations were done. Initial Cobb's angle and Risser's staging were determined ,together with (SEMG) paraspinal muscles at the curve's apex . Re assessment of Cobb's angle and Risser's score was done one year later.

Results: 26 females and 4 males, with dorsal and dorsolumbar scoliosis. There was significant increase in Cobb's angle and Risser's score. Age, Risser's score and SEMG on convex side were significantly correlated with progression of the curve. Cobb's angle was the most sensitive predictor followed by SEMG, while Age, initial Risser's score and SEMG had the highest specificity as predictors.

Conclusion: Cobb's angle and SEMG are useful predictors for progression of AIS. Keywords: adolescent idiopathic scoliosis, Risser's score, SEMG

Neurorehabilitation & Stroke

P-03

BENEFITS OF NATURAL ENVIRONMENT EXPOSURE TO STROKE REHABILITATION

Naumovic N, Bacikin R, Kicosev V University of Novi Sad, Medical faculty, Special hospital for rehabilitation "Rusanda", Melenci, Institute for nature conservation of Vojvodina Province, Serbia.

Abstract

Introduction:

In hospitals, the patients are exposed to large amounts of distress, made by disease and disability itself, unpleasant treatment procedures and the hospital environment in general. The aim of investigation was to place emphasis on the importance of natural, green environment for the patients and therapeutic treatment outcome.

Materials and methods:

The investigation was carried out in the Special hospital for rehabilitation "Rusanda", located in a national park, on the shore of a salty lake. The patients were asked to fill out a questionnaire about what, in their opinion, is important for successful rehabilitation, besides quality medical care. All stroke patients were treated according to modern medical science. One group of randomly selected patients was taken by a therapist to the park in the afternoon for 20 to 30 minutes each day over a period of 30 days. The patient's functional status was measured on the Barthel scale at the beginning of the treatment and once again after the treatment was completed.

Results:

The questionnaire showed that most patients considered a preserved natural environment very important for their healing process. Functional recovery was better in the group of patients which had valuable daily contact with nature i.e. their Barthel's index was significantly increased.

Conclusion:

Contact with nature may be psychologically and physiologically 'restorative' and may promote faster and better healing of stroke patients. According to Ulrich's psychoevolution theory and Wilson's theory of biophilia, investigations of other scientists and those results, we concluded that a natural environment is important in hospitals to reduce stress, anxiety, pain, improve relaxation, sleep, immunity, treatment outcome and quality of life.

Neurorehabilitation & Stroke

P-04

A RARE CAUSE OF HEMIPLEGIA: HEROIN USAGE

Emre Ata, Murat Kösem, Emre Ersöz, <u>Mehmet Z. Kiralp</u> Gulhane Military Medical Academy, Haydarpasa Training Hospital, Physical Medicine and Rehabilitation Service, Istanbul, Turkey.

Abstract

Purpose/aim: Hemiparesis and hemiplegia can be caused by different medical conditions, including congenital causes, tumors, arteritis or stroke (embolic or hemorrhagic events). The most common cause of hemiplegia is stroke. Individuals who have uncontrolled diabetes, hypertension or those who smoke have a higher risk of developing a stroke. Drug addiction also may increase the risk of stroke.

Participants and methods: A 35-year-old, right-handed man, was admitted to our clinic with a right hemiplegia of acute onset and gait disturbance. There was no history of heart disease, systemic hypertension, diabetes, hyperlipidemia, infection or head or neck trauma. There was no familial history of hypertension, diabetes, early heart attack or stroke. About 6 months ago, late the previous evening, he had injected heroin intravenously. On the morning of admission to emergency room, he developed a severe headache associated with speech impairment followed by the onset of the right-sided weakness. Angiogram showed occlusion of the left middle cerebral artery.

Results: Examination at this time revealed a right hemiplegia with motor aphasia and the left limbs were normal. There was spasticity with increased muscle tone especially in the right upper limb. His reflexes were brisk and plantar response was extensor on the right side. He denied any sensory loss. Extensive laboratory evaluation included normal routine hematological and biochemical blood studies.

Conclusion: The sudden onset of hemiplegia in a drug abuser usually follows drug injection (heroin, amphetamine) and has been related to parenteral vasospasm. In this patient, the hemiplegia was secondary to an occlusion of the left middle cerebral artery, suggesting that the underlying mechanism was vasoconstriction followed by stenosis. The occurrence of a hemiplegia following the occlusion of a middle cerebral artery in a young person without evidence of congenital heart disease, systemic arteritis or premature atherosclerosis should bring to mind drug abuse.

Neurorehabilitation & Stroke

P-05

A RARE CAUSE OF PERONEAL NERVE PALSY AND SUCCESFUL TREATMENT OF IT

Emre Ata, Levent Tekin, Mehmet Z. Kiralp. Gulhane Military Medical Academy, Haydarpasa Training Hospital, Physical Medicine and Rehabilitation Service, Istanbul, Turkey.

Abstract

Purpose/aim: Synovial cyst of the proximal tibiofibular joint is a very rare condition. Despite their high incidence, synovial cysts rarely result in peripheral nerve compression and dropped foot. We report the case of a 68-year-old woman with foot drop who had synovial cysts of proximal tibiofibular joint that caused peroneal nerve palsy.

Participants and methods: A 68-year-old female presented with low back pain, right lower limb pain and foot drop. The patient visited our clinic 4 months after the onset of these symptoms. Her medical history revealed episode of low back pain without numbness, motor weakness, and severe pain for 5 years. MRI of the lumbar spine was recommended by an another physician and prescribed analgesics. Lumbar's spine MRI was normal except dejenerative changes. Neurologic examination showed weakness of ankle dorsiflexion and great toe extension(grade 2/5) in the right lower extremity. There was decreased sensation to pinprick on the dorsum of the right foot. Peroneal nerve palsy was suspected. Electromyogram studies demonstrated neuropathic abnormalities of the peroneal nerve. The well-demarcated large synovial cyst medial to the fibular head was diagnosed by means of ultrasonography. The lesion was located anteromedial to the fibular neck, compressing the peroneal nerve.

Results: By US-guided aspiration of the synovial cyst, 20 ml of yellow-coloured dense fluid was collected. Exercise program was arranged. On follow-up after 3 months, muscle strength of ankle dorsiflexion and toe extension was 4/5 and dropped foot was improved.

Conclusion: Clinicians should have suspicion for synovial cysts in cases of dropped foot and ultrasonography and it should be considered in the differential diagnosis. Ultrasonography is quick, successful, and economical option that can use diagnosis and treatment.
P-06

WHOLE BODY VIBRATION TREATMENT EFFECT ON CHRONIC LOW BACK PAIN

Tarek Nasrallah Rheumatology, Physical Medicine and Rehabilitation Department (Al-Azhar Faculty of Medicine), Egypt.

Abstract

Low back pain (LBP) is a common health problem with high reoccurrence rate. Physical therapy is an integral part of chronic low back pain rehabilitation program. It is reported that, whole body vibration can play a role in relieving pain, but the results were criticized. Thus, the present study was designed to examine if there is possible role of WBV in managing of low back pain. It included 100 patients with chronic low back pain treated with WBV and anther 100 patients treated with NSADs as a control group. All were submitted to history taking, clinical examination and electromyography study at lumbar muscles. All participants also completed the Oswestry Disability Index (ODI) questionnaire, the STarT Back screening tool and the short-form of the International Physical Activity Questionnaire.

Results of the present study revealed that, there was significant difference between study and control group post-WBV as regard all parameters. In addition, there was significant decrease of quiet standing at L2-3, L4-5 in the study group; while at control group there was no difference. On the other hand, there was significant increase of flexion, full flexion and extension in study group after WBV when compared to corresponding pre-WBV values; but in control group, there was only significant increase at flexion. The significance observed post treatment between study and control group attributed to the pre-WBV values.

Conclusion: trunk neuromuscular responses after WBV session had significant changes in patients with cLBP. This it can be advised to use WBV as an adjunct in rehabilitation of cases with chronic low back pain.

Keywords: low back pain; whole body vibration

P-07

HOME BASED EXERCISE PROGRAM FOR KNEE OSTEOARTHRITIS: RANDOMISED CONTROLLED TRIAL

Zohra Ben Salah Frih, Soumaya Boudokhane, Houda Migaou, Sana Salah, Anis Jellad

Department of Physical Medicine and Rehabilitation, Monastir Teaching Hospital, Monastir, Tunisia.

Abstract

Background: The therapeutic management of knee osteoarthritis is based on pharmacological treatments, physical treatments and at the ultimate stage prosthetic joint replacement. Current data on the effectiveness of exercise in the knee give importance to those performed by the patient at home. The objective of our study is to evaluate the contribution of home-based exercises in the treatment of knee osteoarthritis, comparing the results in the short term to those of the hospital-based exercises and to analyze medium and long-term results of the home based exercises program.

Patients and methods: It is a prospective and controlled study (February 2012 - November 2013) which included 85 subjects with osteoarthritis of the knee. Patients were randomly allocated to either home-based (Group A) or a hospital-based (Group B) exercise program. Measured outcomes were the intensity of pain, range of movement, functional impairment by the algo-functional index of Lequesne, WOMAC index, the distance walked in 6 minutes, and quality of life by the SF-36. Patients were assessed before and after treatment for both groups, at 6 and 12 months for the group A.

Results: Both groups showed clinically and statistically significant improvements in pain, range of movement, function and quality of life, which were better in the group B. Despite the decrease in adherence, this improvement is maintained significant at one year in the Group A compared to baseline.

Patient who were non-compliant to the home-based exercise program, were mostly illiterate, having a severe functional impairment, a BMI and low level of satisfaction than compliant patient.

Conclusion: home-based exercises program reduces the perception of pain and improve functional parameters and quality of life in the short and long term.

P-08

HEALTH-RELATED QUALITY OF LIFE IN RHEUMATOID ARTHRITIS

Zohra Ben Salah Frih, Houda Migaou, Soumaya Boudokhane, Sana Salah, Anis Jellad Department of Physical Medicine and Rehabilitation, Monastir Teaching Hospital, Monastir Tunisia.

Abstract

Background: Rheumatoid arthritis (RA) is a systemic chronic inflammatory disease. Because of its chronic, painful, and disabling character, RA tends to have a profound impact of health-related quality of life.

Objective of this study is to evaluate the quality of life in a Tunisian cohort of RA patients.

Method: patients fulfilling 2010 ACR criteria for RA were recruited. Assessment parameters are: Disease Activity Score (DAS 28), Multidimensional Assessment of Fatigue (MAF), Hospital Anxiety and depression Scale (HAD), Health Assessment Questionnaire (HAQ) and the Short Form 36 questionnaire (SF36).

Results: Participants were 39 women and 5 men (mean age= 47 years). The average duration of disease was 11.7 years. The mean average of DAS 28 value was 4.96; six patients were in remission, 32 with a disease activity considered low or moderate and 25 with a disease very active. The average of SF36 was 35.9% for physical component and 41.4% for mental component score. A significant correlation was found between the score of the SF36 and the following parameters: age, disease, duration, activity of disease, HAQ, MAF and HAD.

Conclusion: Quality of life of RA patient is early affected for physical and psychological component.

P-09

QUALITY OF LIFE ASSESSMENT IN EGYPTIAN RHEUMATOID ARTHRITISPATIENTS: RELATION TO CLINICAL FEATURES AND DISEASE ACTIVITY

Rania M.Gamal¹, Safaa A.Mahran¹, ², N. Abo El Fetoh³, Fadwa Janbi ²

 Physical Medicine, Rheumatology and Rehabilitation Department, Faculty of Medicine, Assiut University, Assiut, Egypt. 2 Physical Medicine and Rehabilitation Department, Faculty of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia 3 Neurology and Psychiatry Department, Faculty of Medicine, Assiut University Hospital, Assiut, Egypt.

Abstract

Aim of work: to assess the impact of Rheumatoid Arthritis (RA) on the health related quality of life (QoL) of patients, using the 36-item short form (SF-36) and to study the influence of different disease variables.

Patients and methods: Eighty-six RA patients were recruited from the Rheumatology and Rehabilitation outpatient of Assiut University Hospital. Forty three, age and sex matched subjects were included as controls. The QoL was measured in all subjects using the SF-36 health survey. Disease activity was assessed in RA patients by the Disease Activity Score (DAS28).

Results: All domains of the SF36 were significantly lower in the patients (p < 0.0001). Patients with a lower educational level and those unemployed had significantly lower SF36 components. Those with a disease duration > 5 years, positive rheumatoid factor and higher disease activity had a significantly lower SF36 physical component. Patients receiving hydroxychloroquine or prednisolone had significantly lower mental component. Significant negative correlation of the SF36 physical and mental components was found with both disease duration (p=0.01 and p<00001 respectively) and DAS28 (p<0.0001 for both).Rheumatoid Factor negatively correlated with the physical component (p<0.0001). Regression analysis showed that disease duration was the most profound predictor of both SF36 components (p<0.0001).

Conclusion: The quality of life is impaired in Egyptian RA patients and disease duration was the most significant predictor. Routine assessment of the health-related QoL in those patients is recommended to detect and monitor the impact of the disease and medications used on different aspects of their quality of life.

Key words: Rheumatoid arthritis (RA) - health related quality of life (HRQoL) - Medical Outcomes Study 36-Item Short Form Health Survey (SF-36) - DAS28 -predictors

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AVASCULAR UNILATERAL FEMORAL HEAD NECROSIS AS A LATE COMPLICATION FOLLOWING SUCCESSFUL TREATMENT OF TEMPORAL ARTERITIS WITH STEROID

Emre Ata, <u>Mehmet Z. Kiralp</u>

Gulhane Military Medical Academy, Haydarpasa Training Hospital, Physical Medicine and Rehabilitation Service, Istanbul, Turkey.

Abstract

Purpose/aim: Avascular necrosis (AVN), also called; osteonecrosis, aseptic necrosis, and ischemic bone necrosis is a pathologic process resulting from the death of the cells in bone tissue after interruption of its blood supply by traumatic or non-traumatic causes and a well-known complication after corticosteroid treatment. Although some cases are idiopathic, there are many risk factors including: chemotherapy, alcoholism, post trauma, decompression sickness), vascular compression, hypertension, vasculitis, arterial embolism and thrombosis, damage from radiation, bisphosphonates and sickle cell anaemia. Avascular necrosis is especially common in the hip joint bilaterally and usually affects people between 30 and 50 years of age.

Participants and methods: Case: A 66-year-old man presented to our outpatient clinic with spontaneous onset and moderate left hip pain for 1 month. Pain was focused in the groin and buttock and was increased with active movement. There was no history of trauma and any systemic disease except temporal arteritis that had treated 8 years ago with corticosteroid. He had two-year history of low dose prednisolon use 8 years ago. AVN was suspected based on long-term steroid use. All laboratory tests are normal in terms of differential diagnosis. MRI showed stage IIA (Diffuse or localised osteoporosis, sclerosis, or cysts of the femoral head) AVN.

Results: Conventional treatment was ordered and the patient was referred to orthopedic surgeon.

Conclusion: Although avascular necrosis of the femur head is one of the most wellknown side effect of steroid therapy, corticosteroids even in high doses not cause AVN of femoral head in the majority of patients.The duration of steroid therapy, the total cumulative dose and highest Daily dose of steroids are most important factors in the development of AVN. Herein, we want to emphasize that clinicians need to be aware of the possibility of spontaneous onset hip pain due to AVN occurring in older men, even after many years.

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A CASE OF SEPTIC ARTHIRITIS AFTER INTRA ARTICULAR PLATELET-RICH-PLASMA INJECTION

Emre Ata, Selim Akarsu, Mehmet Z. Kiralp Gulhane Military Medical Academy, Haydarpasa Training Hospital, Physical Medicine and Rehabilitation Service, Istanbul, Turkey.

Abstract

Purpose/aim: Intraarticular injections such as corticosteroid and hyaluronic acid injections are common conservative management modalities in treatment of osteoarthritis of knee. Several clinical studies have demonstrated that Platelet-rich plasma (PRP) injections have also improved function and decreased pain in the treatment of adult patients with mild to moderate knee OA. Herein, we would like to report a case of knee septic arthritis after intraarticular PRP injection in a osteoarthritis patient.

Participants and methods: A 74-year-old woman presented with left-knee pain and swelling following PRP injection at post injection 1 month. On examination there was ballotement, local incressed temperature and tenderness on palpation on her left knee. She was febrile with a temperature of 38.2°C and tachycardic, too. Her erythrocyte sedimentation rate was 73 mm/h, the C-reactive protein was 39, and white blood cell count was 15.000. Ultrasonographic (US) examination showed effusion in the left knee. By US-guided aspiration of the knee, 30 ml of blurry fluid, which was sent to microbiology for culture, was collected. Intravenous ceftazidime 1 g 3 times daily and daptomycine 500 mg once-a-day was commenced, empirically.

Results: Culture revealed Pseudomonas aeruginosa sensitive to ciprofloxacin. Ciprofloxacin 500 mg 2 times daily was continued for 8 weeks. Inflammatory markers and articular symptoms improved after treatments with.

Conclusion: Although the side effects of PRP injections are known very limited as the patient is utilizing their own blood, it should be kept in mind that septic arthiritis may develop after PRP injections, even if clinician shows ultimate attention to sterilization. Antibiotherapy should be initiated as soon as possible in such cases.

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HYPERHIDROSIS: INTRADERMAL A-ABBOTULINUMTOXIN TREATMENT OF AXILLARY, PALMAR, PLANTAR AND GROIN REGION

Filipe Quintas; Tiago F. Soares; Acilda Mendes; José Oliveira Physical Medicine and Rehabilitation service, Centro Hospitalar do Baixo Vouga, Aveiro – Portugal E-mail:filipe.lima.quintas@gmail.com

Abstract

Idiopathic hyperhidrosis although under-diagnosed is a prevalent disease in our society, with high impact on the quality of personal life and the participation of the patient in his social and professional environment. Conservative (systemic anticholinergic drugs) or permanent (sympathectomy) treatment has numerous risks and undesirable effects such as xerosis or post-surgical neurotmesis. Treatment with botulinum toxin (BTX) is an mild solution in this therapeutic duality. A A-abobotulinumtoxin, can be delivered percutaneously by intradermal infiltration thus contributing to the treatment of hyperhidrosis.

Our goal was to demonstrate the clinical viability of using the abobotulinium-toxin in treating axillary hyperhidrosis, palmar, plantar and groin. In this study we preformed 74 intradermal infiltration procedures using Dysport® (A-abobotulinumtoxin) in 26 patients to treat symptomatic hyperhidrosis in areas such as axillary (n = 32); palmar (n = 26); plant (n = 10); groin (n = 6). Objective (*starch iodine test; DLQI*) and subjective scales (*Hyperhidrosis Disease Severity Scale; Hyperhidrosis visual scale*) were used to measure the results. It has been shown a significant improvement in objective and subjective sweating parameters in all treated regions: axillary; palmar; plant; groin after a single session. The single adverse effect to be registered was reduced strength in the intrinsic hand muscles, in the palmar hyperhidrosis treatments. The clinical results were maintained in all areas at least 24 weeks, with body parts, such as the axillary and groin region persisted up to 48 weeks after treatment. The percutaneous administration techniques of botulinum toxin should be taken as should be regarded as a potential option for the hyperhidrosis treatment in physical medicine and rehabilitation.