Abstracts

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Periarthrosis of the shoulder associated with diabetes mellitus

Friedman N, LaBan M. Am J Phys Med Rehab 1989; 68(1):12–14.

Among the protean complications of diabetes mellitus are contractures of the joints and periarticular soft tissue. These complications have not been well described in the literature. This syndrome of "limited joint mobility," has been reported as occurring in young, insulin-dependent diabetics, with primary involvement of the small joints of the hands. In older diabetics, similar changes have been described with additional contractures developing in the large joints of the upper extremities. This report presents clinical findings occurring in five older diabetics with primary contractures of the shoulder. Theoretical considerations are also discussed regarding the neurophysiology of this entity as well as the current treatment options.

Motor vehicle accident associated with minimal maternal trauma but subsequent fetal demise

Fries M, Hankins G. Ann Emerg Med 1989; 18:301–304.

Traumatic fetal injury in the absence of significant maternal injury is rare. A 21-year-old woman at 27 weeks estimated gestational age sustained a front-end motor vehicle collision at 35 mph while wearing a seatbelt and shoulder harness with minimal maternal injury. Marked variable fetal heart rate decelerations were noted on the patient's presentation. Although the initial ultrasound examination was normal, sequential examinations showed an enlarging fetal intracranial mass. Fetal demise occurred five days after the accident with necropsy confirming cerebral hemorrhage, hepatic hemorrhage, and hemoperitoneum. In this case, an abnormality of fetal heart rate first suggested a severe fetal injury, with ultrasonography confirming the injury four days later.

Familial occurrence of primary fibromyalgia

Pellegrino M, Waylonis G, Sommer A.
Arch Phys Med Rehab 1989; 70:61–63.

Seventeen families of patients with primary fibromyalgia were studied for evidence of inherited primary fibromyalgia. Fifty parents and siblings were included in the analysis. Twenty-six (52%, mean age 33.5 years) had characteristic symptoms and findings of primary fibromyalgia. Eleven (22%, mean age 28 years) were asymptomatic but had clinical evidence of abnormal muscle consistency to palpation without tender or trigger points. One person had clinical evidence of lupus. Thirteen (26%) had no evidence of fibromyalgia or abnormal muscle consistency. The mode of inheritance was autosomal dominant. Identical twins are described who developed symptoms of primary fibromyalgia within six months of each other, as are two brothers who developed abnormal palpable muscle consistency years before acquiring the characteristic findings of the fibromyalgia syndrome. Primary fibromyalgia may be an inherited condition with a variable latent stage before clinical expression of the disease.

Some indicative parameters on diagnostic radiology in Spain: first dose estimations

Vano E, Gonzalez L, Calzado A, Moran P, Delgado V.
Br Med J 1989; 62:20–26.

The Medical Physics Group at the Complutense University of Madrid has been co-ordinating, for approximately 1 year, a project on optimization of radiation protection in diagnostic radiology, in co-operation with the other states of the European Community. Exhaustive data on the subject, which offer accurate results on patient dosimetry for the different types of examination, are the final aim of the project. So far, it has been possible to analyse in detail the data from the National Institute of Health (NIH), which manages the care of about 96% of the Spanish population, plus the findings from several hospitals, outpatient centres and private clinics of the community of Madrid, which allowed us to perform the first dose estimations and to extrapolate them to the rest of Spain. The following estimations are presented: annual frequency of different examinations, their variation from 1985 to 1986, number of diagnostic rooms used for a given minimum of annual examinations, organ does for different examinations, effective dose-equivalent, genetically significant dose for some examinations, as well as the collective dose.

Lower cervical spondylosis and myelopathy in adults with Down's syndrome

Olive P, Whitecloud T, Bennett J. Spine 1988; 13(7):781–4.

Abnormalities in the upper cervical spine resulting in cervical myelopathy in patients with Down's syndrome have been well-documented. However, two adult Down's syndrome patients recently presented with cervical myelopathy secondary to abnormalities of the lower cervical spine. Because of this, 105 Down's syndrome patients with normal upper cervical spines were evaluated clinically and radiographically. They were found evaluated clinically and radiographically. They were found to have an increased prevalence of lower cervical spondylosis that significantly correlated with physical findings consistent with cervical myelopathy. Therefore, physicians dealing with Down's patients should closely monitor neurological function and obtain flexion/extension laterals of the cervical spine to evaluate C1–C2 instability and degenerative changes in the lower cervical spine if a change in neurologic status is noted.

Annular protrusion: pathophysiology and roentgenographic appearance

Kambin P, Nixon J, Chiat A, Schaffer J. Spine 1988; 13(6):671–5.

The degenerative changes of the lumbar spine in 100 patients with symptomatic low-back pain were reviewed using plain roentgenograms and computed tomographic scans in order to determine the relationship between degeneration and annular protrusion. Additionally, the lumbar spinal units of 25 fresh cadavers were roentgenographed, injected with a mixture of methylene blue and renografin-60, dissected, and studied.

The state of degeneration of each of the intervertebral units of both groups was graded on a four-point scale based on the roentgenographic presence or absence of osteophytes and facet joint changes, and the intervertebral disc height. The degree of annular protrusion was measured by dividing the anteroposterior diameter of the intervertebral disc by the anteroposterior diameter of the vertebral plate as determined on the radiographic studies. In the clinical group, 39 intervertebral discs having Grade II and III degeneration exhibited a statistically higher annual/vertebral diameter ratio of 1.30 as compared to the normal invertebral discs, with an A/V index of 1.12. The dissection of the disc spaces of the cadavers with radiographic evidence of the disc space narrowing and marginal osteophytosis, Grade II and III degeneration, displayed significant interruption and tearing of the annular fibers and peripheral migration of collagenized nuclear fragments. In both the clinical and pathologic groups, there was a direct correlation between the size of the annular bulge, as indicated in the A/V index, and the degree of narrowing of the disc space. Therefore, this study indicated that annular protrusion is an intricate part of the degeneration process.

Orthotic results in adolescent kyphosis

Gutowski W, Renshaw T. Spine 1988; 13(5):485–489.

Seventy-five patients with adolescent kyphosis, treated with Boston lumbar or the modified Milwaukee orthosis, were reviewed. For compliant patients, the average improvement in kyphosis was 27% in the Boston orthosis group and 35% in the Milwaukee orthosis group, despite the fact that the former group were younger and had smaller, more flexible curves. Compliance with orthosis wearing and, therefore, effective treatment was twice as likely with the Boston orthosis. Results in patients who wore their orthoses at least 16 hours per day were equal to results in patients with 23 hours of daily wear. In a small group of compliant patients with kyphotic deformities greater than 75 degrees, the Milwaukee orthosis was surprisingly effective. The Boston lumbar kyphosis offers a satisfactory alternative to the modified Milwaukee brace in adolescent kyphosis patients whose curves measure less than 70 degrees, especially if satisfactory compliance with brace wear is suspect.

Approach to musculoskeletal chest wall pain

Fam A. Primary Care 1988; 15(4):767–82.

Pain in the chest is a common symptom with diverse causes. Its origin may be in the intrathoracic structures, chest wall, neck, or areas below the diaphram. Musculoskeletal chest wall disorders are often unsuspected causes of chest pain. As clinicians, we are often asked to evaluate patients presenting with chest pain of possible musculoskeletal origin. Failure to make a specific diagnosis usually results from not considering all elements of the history or a cursory physical examination. The purpose of this article is to direct attention toward the various musculoskeletal chest wall conditions that can cause chest pain, and to discuss the anatomic and pathogenetic principles involved, and the practical management issues facing the practitioner.

Traumatic vertebrogenic low back pain syndrome of biomechanical origin: treatment by rehabilitation exercises

Sandman KB. Am J Chiro Med 1988; 1(3):122–4.

A case of vertebrogenic low back pain syndrome of biomechanical origin, precipitated by lifting trauma and characterized by myofascitis and radiculitis, is present. Previous allopathic medical diagnosis and treatment is reviewed, etiology from a chiropractic viewpoint is discussed, and a treatment plan in which the patient is instructed in muscle rehabilitation exercises is presented.

Coexisting cervical spondylotic myelopathy and bilateral carpal tunnel syndromes

Epstein N, Epstein J, Carras R. J Spinal Dis 1989; 2(1):36–42.

In six patients, operations for bilateral carpal tunnel syndromes (CTS) were performed or were about to be performed without the awareness of the presence of underlying cervical spondylostenosis. Only later, when symptoms of myeloradiculopathy were recognized, was the diagnosis confirmed and decompressive laminectomy performed. Because the symptoms of CTS may resemble or be masked and accentuated by the cervical disorder, patients with the presumed diagnosis of bilateral CTS should undergo appropriate critical neurologic, electrodiagnostic, and neuroradiologic (magnetic resonance imaging, computed tomography, myelo-computed tomography) assessment. If these guidelines are followed, the radiculopathy caused by cervical pathology will be appropriately recognized and treated, possibly averting the need for carpal tunnel decompression or modifying treatment.

Temporal relationships of lumbar herniated disks injuries

McCrary B. JAOA 1988; 88(12):1483–6.

To evaluate the relationship of time of day to severe low-back injuries, 60 cases of herniated nucleus pulposus were selected from five occupational medicine clinics. Causes of injury were assigned to three categories, and the actual time of injury was recorded. A significant association was noted between nonfalling injuries and passage of time on workshift. This pattern was consistent for both male and female patients and for clinic sites.

Nocturnal neck movements and sleep apnea in headache

Biber M. Headache 1988; 28(10):673–4.

Obstructive sleep apnea causing nocturnal headaches is discussed. The physiological impact of the excessive neck movements and hypoxemia that can be associated with sleep apnea is outlined. It is suggested that treatment of headaches requires an understanding of these factors.

Brain damage in former association football players

Sortland O, Tysuaer A. Neuroradiol 1989; 31:44–48.

Thirty-three former football players from the National Football Team of Norway were examined by cerebral computer tomography (CT). The CT studies, evaluated for brain atrophy, visually and by linear measurements compared two different normal materials. One third of the players were found to have central cerebral atrophy. It is concluded that the atrophy probably was caused by repeated small head injuries during the football play, mainly in connection with heading the ball.

Idiopathic scoliosis in males: a natural history study.

MacEwen G. Spine 1988; 13(10): 1091–5.

Curve behavior of idiopathic scoliosis in an exclusively male population was investiagted, since it has not been previously reported. Fifty males with idiopathic scoliosis satisfied entry requirements for this study: standing posteroanterior spine radiograph measuring a curve greater than 20 degrees, preoperative observation for greater than 1 year and nonoperative patients with greater than 5 years of radiographic follow-up beyond skeletal maturity. Mean rate of curve progression from presentation to Risser 4 maturation was 3.0 degrees/year. Forty-four percent of the curves progressed 5 degrees or more between Risser 4 and 5. The rate of curve progression following Risser 5 was 0.18 degrees/years. Thoracic curves were associated with a higher degree of curve progression than other curve types. There was no statistically significant association between curve progression and family history, vertebral rotation, Risser sign, or curve magnitude. Curve progression secondary to growth usually terminates at Risser 4 in females with idiopathic scoliosis. This study indicated that scoliotic male curves demonstrated clinically significant progression until Risser 5 rather than Risser 4. Thus, the authors conclude that males with idiopathic scoliosis curve greater than 20 degrees should be followed radiographically until Risser 5. In females, scoliosis beyond Risser 4 can be considered as an adult curve; however, in males, scoliosis can be evaluated as an adult curve only after Risser 5. Beyond Risser 5, male curves demonstrate minimal progression.

Postural control in single-limb stance.

Tropp H, Odenrick P. J Orthop Res 1988; 6(6):833–9.

Postural control in single-limb stance has previously been shown to be impaired among soccer players with functional instability (FI) of the ankle joint. The aim of the present study was to furtther study the role of the ankle in postural control. A dynamic method was used involving optoelectronic movement recordings of body segments and force-plate recordings of the reaction ground force. Surface electromyography was recorded for the peroneus longus muscle. Thirty physically active men were selected. Fifteen of them had FI of the ankle chosen in recoding. The results show that different patterns exist for maintaining equilibrium in single-limb stance. The ankle has a central role for postural corrections. The position of centre of pressure is highly correlated to the position of the ankle and peroneal muscle activity. When the body was in disequilibrium, corrections were made at the hip. It is proposed that a change from an inverted pendulum model to a multisegmental chain model takes place when adjustments at the ankle joint no longer suffice to maintain postural control. The men with FI showed impaired postural control associated with increased upper segmental corrections.

Shoulder asymmetry and handedness in adolescents

Leboeuf C, Ames R, Griffths, Keswani K. J Aust Chiro Assoc 1988; 18(4):122–4.

The posture of 144 school children, aged 14–16, was examined. Shoulder height and side of dominant hand were recorded. Eight-two percent were found to have an elevated shoulder contralateral to the side of the dominant hand. There was a significant association between high shoulder and dominant hand for dextral but not sinistral children. Only 0.7% of the sample had equal should height.

The place of chiropractors in health care delivery: a case study of North Carolina

Gesler W. Soc Sci Med 1988; 26(8):785–92.

Three perspectives on the place of DCs in the United States health care delivery system were derived from the social science literature; system status, cultural congruence, and utilization patterns. North Carolina was used as a case study site to examine these perspectives from a geographical point of view. It was found that DCs were located in smaller places tha MDs. DC/population ratios were associated with white populations and higher incomes, but were not associated with those aged 18–64 rural populations and religious groups that used touch in healing. DCs were located in more rural and lower income areas than were MDs.

Dynamic EMG analysis of torque transfer in professional baseball pitchers

Watkins R, Dennis S, Dillin W, Schnebel B, Schneiderman G, Jobe F, Farfan H, Perry J, Pink M. Spine 1989; 14(4):404–408.

Fifteen professional baseball pitchers underwent active pitching motion analysis of the abdominal oblique, rectus abdominis, lumbar paraspinous and gluteus maximus muscles bilaterally via surface electrode evaluation. Baseline resting and isometric maximum values were obtained and active data referenced against these for comparison. The muscle activity then was measured during the pitching sequence and analyzed in each of the five pitching phases. The abdominal oblique, lumbar paraspinous and rectus abdominis contralateral to the pitching arm and the ipsilateral gluteus maximus all had increases in activity level of 75 to 100% during the active pitching motion. Using these data indicating specific muscle group patterns with clinical and performance data, we hope to minimize injuries and maximize pitching performance.

Buttock masses as a cause of 'hip' pain

Hoffmon G, Groff G, Olson J.
J Musculoskel Med 1989; 6(6):111–122.

When patients complain of "hip" or "back" pain, often the true site of the pain is the buttocks. Five such patients, referred to a rheumatology clinic with actual (but inaccurately described) buttock pain, subsequently were found to have soft tissue mass lesions, including both primary and metastatic carcinoma. Such failure of patients to accurately describe the buttocks seems to be common. A retrospective review of patients with proven pelvic and hip girdle tumors found that more than one third of the often painful masses were located in the buttocks. Moreover, a systematic, documented examination of the buttock region frequently is not made. This area should be evaluated in any patient with otherwise unexplained "hip" or "back" pain.

Exercise and asthma: not incompatible

Schroeckenstein D, Busse W. J Musculoskel Med 1989; 6(6):63–79.

Breathing difficulties associated with exercise are often blamed on a lack of conditioning, but in a significant number of athletes (12% to 32%), the problem is caused by undiagnosed exercise-induced asthma (EIA). Diagnosis of EIA is based on a high level of suspicion, awareness of the syndrome, and documentation of airway hyperreactivity, usually by treadmill provocation exercise. One "red flag" is breathing difficulty with long-distance running, but not swimming. EIA need not limit participation in a physically active lifestyle. A prophylactic approach is best, and metered-dose inhaler (MDI) or nebulizer delivery is the most effective: for most patients with mild EIA, two inhalations of a -agonist from an MDI 10 to 15 minutes before exercise will prevent brochospasm.

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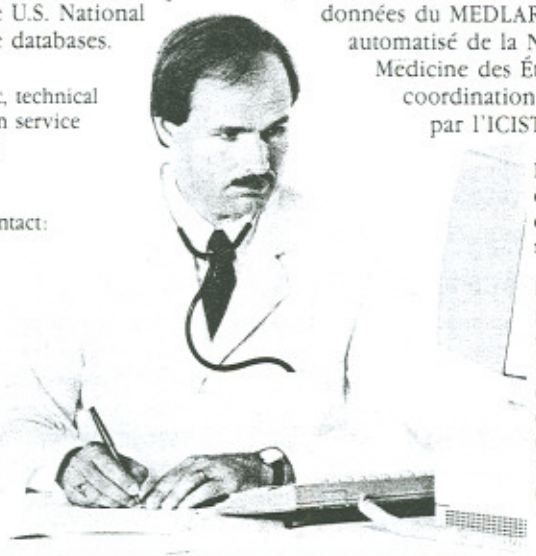

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