

COMBINED ESSEX-LOPRESTI AND GALEAZZI FRACTURES

INTRODUCTION

We present the case of a patient who sustained an injury that was a combination of Essex-Lopresti and Galeazzi fractures. His injuries consisted of a radial shaft fracture, a radial head fracture, and disruption of the distal radioulnar joint with an ulnar styloid process fracture. Only two cases have been reported previously in the English literature. Following case presentation, we discuss the biomechanics, pathoanatomy, and the surgical management of this rare injury.

CORE DECOMPRESSION FOR OSTEONECROSIS OF THE HIP

INTRODUCTION

Osteonecrosis of the femoral head is caused by ischemic death of the bony and marrow tissues, characterized by the accumulation of minifractures within the subchondral bone plate, and associated with a rapidly progressive arthropathy after collapse of the articular surface. Unfortunately, without operative treatment, greater than 85% of patients will go on to have severe collapse of the femoral head.

The ultimate goal of treatment of osteonecrosis of the hip is preservation of the femoral head. However, the development of a successful strategy to treat this disease has been difficult because neither the etiology nor the natural history of osteonecrosis of the hip has been defined clearly. Core decompression of the hip is one of the most commonly done surgical procedures to treat the early stages of osteonecrosis of the femoral head. However, there is no general consensus among investigators regarding either the specific indications for this procedure, or the specific technique of core decompression that would optimize results.

We present a case of a patient with a bilateral osteonecrosis of the femoral head at different stages of the disease with different results after core decompression. After the case presentation this article will review the current literature regarding etiology, pathophysiology, diagnosis, classification and staging and outcome of core decompression.

EPIDEMIOLOGY AND CLASSIFICATION OF EXTENSIVE VOLAR WRIST LACERATIONS: THE "SPAGHETTI WRIST"

INTRODUCTION *

Extensive volar wrist lacerations, also known as 'spaghetti wrist', 'suicide wrist' or 'full-house wrist syndrome' has been described extensively in the current literature, although there is no standard definition as to what constitutes a spaghetti wrist (Chin et al, 1998). The so-called "minimal definition" describes spaghetti wrist as an extensive volar wrist laceration involving a minimum of three completely transected structures (nerve, artery and tendon) to at least 10 divided structures inclusive of both ulnar and median nerves and ulnar and radial arteries (Hudson and DeJager, 1993; Puckett and Meyer, 1985; Widgerow, 1990).

Despite their relatively frequent occurrence in the civilian population, few data are available in the literature to classify these injuries; thus, a uniform reporting, severity of disability and prognosis are not available. A few reports attempted to categorize spaghetti wrist injuries as mild, moderate and severe, depending upon the number of volar structures involved. These reports do not include the commonly associated extensor tendons and bony injuries (Chin et al, 1998; Hudson and DeJager, 1993; Kabak et al, 2002; Puckett and Meyer, 1985; Widgerow, 1990). Transections of cutaneous nerves, major veins, and crush or avulsive lacerations of the tendons, nerve, and blood vessels were excluded or not relevant in these studies.

FLOATING KNEE INJURIES

INTRODUCTION

Ipsilateral fractures of the femur and tibia or floating knee injuries are serious injuries and may include combinations of diaphyseal, metaphyseal, and intra-articular fractures. Besides being caused by high-energy trauma with extensive skeletal and soft tissue damage, they are also associated with potentially life-threatening injuries. Although treatment planning for each fracture in the extremity should be considered individually to achieve the optimal result, the effect of that decision must be considered in light of the overall injury status of the entire extremity. Better results and fewer complications are observed when both fractures are diaphyseal than when one or both are intra-articular. We present two cases of floating knee injuries and discuss the classification and operative management of the fractures.

GIANT CELL TUMOR OF THE TALUS

INTRODUCTION

Giant cell tumor of the talus is uncommon and treatment options are ill defined. Though it represents a unique clinical and radiographic entity with less aggressive natural history than the more common sites, the talus offers a distinct anatomic setting and presents unusual problems of surgical management with avoidance of recurrence, fracture, avascular necrosis, and restoration of function. A case of giant cell tumor of talus is discussed with a review of the literature.

HUMERAL DIAPHYSEAL NONUNION

INTRODUCTION

Nonunion of the humeral shaft occurs in 2% to 10% of nonsurgically treated fractures and in up to 15% of fractures treated by primary open reduction and internal fixation (Rosen, 1990; Sarmiento et al, 2000; Ward et al, 1998). Although fractures of the shaft of the humerus generally heal by nonoperative treatment, nonunion can lead to marked morbidity and functional limitation. Successful surgical management of humeral nonunion requires stable internal fixation that allows early joint motion and uses autogenous bone graft to promote healing. Advances in preoperative evaluation and surgical reconstruction have improved functional outcomes. We present two cases of humeral diaphyseal nonunion and discuss the etiology and management.

IPSILATERAL FEMORAL NECK AND SHAFT FRACTURES

INTRODUCTION

Fractures of the femoral neck and fractures of the femoral shaft are both common, however ipsilateral femoral neck and shaft fractures are uncommon injuries occurring in 2% to 6% of all femoral shaft fractures (Zettas et al, 1981; Winquist et al, 1984). Ipsilateral femoral neck and shaft fractures present a surgical challenge to the treating surgeon. Several treatment options are described in the literature, but no clear consensus exists regarding the optimal treatment of these complex fractures. The goal of any treatment plan should be anatomic reduction of the neck fracture, and stable fixation of both fractures, so that the patient can be mobilized.

We present a case of ipsilateral femoral neck and shaft fracture, who was a victim of high-energy trauma and discuss the management based on a review of current literature, biology and severity of this injury, and technical aspects of surgical treatment.

LUMBAR MICRODISCECTOMY

INTRODUCTION

The standard laminectomy and discectomy gradually is being replaced by microdiscectomy and it is the procedure of choice for herniated lumbar disc. Everything that can be accomplished through the standard laminectomy and discectomy can be accomplished more easily with the assistance of the microscope. A microsurgical approach facilitates outpatient procedures and more cost-effective surgical care. We present a case of lumbar disc herniation treated by microlumbar discectomy and discuss the advantages and disadvantages and the techniques of the procedure.

NONUNION OF THE FRACTURED CLAVICLE

INTRODUCTION

Clavicle fracture is a common injury in all age groups. Although often viewed as benign injuries with high rates of healing and excellent functional results, clavicular fractures can lead to complications, particularly nonunions and malunions. A clavicular nonunion is rarely asymptomatic and often results in disability from pain at the site of the nonunion, altered shoulder mechanics or a compression lesion involving the underlying neurovascular structures. Successful treatment of a clavicular nonunion is often a difficult task and requires a thorough understanding of the anatomy and function of the clavicle, the etiology and the symptomatology of nonunion, and the wide array of treatment options.

OPEN TOTAL DISLOCATION OF THE TALUS

INTRODUCTION

Open total dislocation of talus with disruption of the talonavicular, subtalar, and ankle joints and extrusion out of the skin without a concomitant fracture is an extremely rare injury. Although reduction of the talus is ideal to preserve function and length of the extremity, several complications can occur including avascular necrosis and infection. A 20-year-old male suffered from this rare injury, which was treated conservatively. A literature survey concerning mechanism of injury, diagnosis, treatment, and prognosis is presented.

PRIMARY PYOMYOSITIS

INTRODUCTION

Primary pyomyositis is a rare, subacute, suppurative infection, which commonly manifests as a local abscess but may also present as a diffuse inflammatory or rapidly progressing myonecrotic process. It occurs within a fascial covering of the skeletal muscle and is not secondary to a contiguous infection of the skin, bone or soft tissue. It is believed to be a complication of transient bacteremia. Pyomyositis in adults is commonly associated with an underlying disease or condition that might impair their immune system. The commonest organism that causes primary pyomyositis is *Staphylococcus aureus* but it is also occasionally caused by *Streptococcus* species, *Escherichia coli*, *Salmonella enteritidis* and *Mycobacterium tuberculosis*.

We report a unique case of *Enterobacter* species primary pyomyositis that involved the both the flexor and extensor muscles of the right forearm in an adult with systemic lupus erythematosus. To our knowledge this is the first case of this kind in the English-language literature.

RUPTURED HAEMORRHAGIC POPLITEAL CYST CAUSING POSTERIOR COMPARTMENT SYNDROME

INTRODUCTION

One of the common causes of acute calf pain is deep vein thrombosis. Pseudothrombophlebitis is a condition in which the clinical features resemble deep vein thrombosis with no thrombus in the veins. The commonest cause of pseudothrombophlebitis is a ruptured popliteal or Baker's cyst. In an unsuspected patient, treatment of a ruptured popliteal cyst as deep vein thrombosis can result in a calf hematoma and acute compartment syndrome. Prompt recognition, fasciotomy, and drainage of the haematoma can prevent complications of compartment syndrome.

IPSI LATERAL SIMULTANEOUS FRACTURES OF THE DISTAL RADIUS AND SCAPHOID

INTRODUCTION

Simultaneous fractures of the distal radius and scaphoid are rare injuries occurring in less than 2% of isolated fractures of each bone. Treatment of this uncommon injury is controversial. Three cases of simultaneous fractures of distal radius and scaphoid are presented. Closed reduction and cast immobilization produced excellent results in two patients. In the other, open reduction and internal fixation of the intra-articular, unstable distal radial fracture was performed. All three scaphoid fractures healed without complications. After presentation of the cases we discuss the mechanism, treatment, and review of literature of this rare injury.

TENDINOPATHY OF TENDO ACHILLES

INTRODUCTION

Achilles tendinopathy is one of the common overuse syndromes. The vast majority of cases occur in runners, particularly distance runners. Although the etiology is considered to be associated with overuse of the aged tendon, scientifically, the etiology and pathogenesis are unknown. Treatment of Achilles tendinopathy is difficult. We present a case of Achilles tendinopathy and discuss the various types and the etiopathology underlying the conditions before outlining current biologic evidence for clinical assessment and treatment.

TRAUMATIC BILATERAL ASYMMETRIC FRACTURE DISLOCATION OF THE HIP JOINTS

INTRODUCTION

Bilateral traumatic dislocation of the hip joints is a rare injury, accounting for approximately 1% to 2% of all cases of traumatic hip dislocations. A much more uncommon injury occurs when one hip dislocates anteriorly and the other posteriorly. We report such a case and discuss the mechanism, treatment and review of similar cases in the English literature.

ACQUIRED HALLUX VARUS

INTRODUCTION

Hallux varus is a deformity of the great toe that is characterized by medial deviation and subluxation of the first metatarsophalangeal joint. Acquired hallux varus most commonly occurs after hallux valgus surgery. Congenital hallux varus is rare. Successful management depends on a comprehensive evaluation of the patients' symptoms, the severity of the deformity, and the effect of the deformity on function. We report a case of symptomatic acquired hallux valgus and discuss the anatomy, incidence, pathogenesis, classification, evaluation, and treatment of hallux varus.

ANTERIOR TIBIAL STRESS FRACTURES

INTRODUCTION

Stress fractures are focal structural weakness in the bone occurring in response to the repeated application of submaximal fracture threshold stresses (Burr, 1997; Grimston and Zernicke, 1993; Matheson et al, 1987). It commonly occurs in the proximal metaphysis of the tibia and heals readily with rest. Stress fractures of the middle third of the tibia, on the other hand are uncommon, and are associated with atypical clinical and radiographic findings. They have a propensity for nonunion and can result in complete fracture. We report a case of a patient who had a middle third anterior cortex tibial stress fracture.

ANTIMICROBIAL-IMPREGNATED CEMENT BEADS IN THE TREATMENT OF BONE AND JOINT INFECTIONS

INTRODUCTION

Bone and joint infection has long been a formidable foe of orthopedic surgeons. Soft tissue infections and septic joints usually are treated with parenteral antibiotics for 2 to 4 weeks; whereas chronic osteomyelitis and infected arthroplasties are treated for 4 to 6 weeks or longer. The advantages of systemic therapy include, (1) the ability to deliver antibiotics to areas that cannot be reached with topical therapy, (2) the large selection of antimicrobial agents, and (3) the possibility to arrest or eradicate infection. Disadvantages include the potential for systemic toxicity, difficulty in achieving high concentrations of antimicrobial agents at the site of infection, and poor compliance. To combat these disadvantages, newer methods for the delivery of antimicrobial agents such as antimicrobial-impregnated cement beads and spacers have been investigated. Presented are their preparations, mechanism of action, and their use in clinical settings.

AVULSION FRACTURE OF THE ISCHIAL TUBEROSITY – A FREQUENTLY MISSED DIAGNOSIS

INTRODUCTION

Avulsion fracture of the ischial tuberosity is a rare injury in comparison to mid-substance tears of the hamstrings, and its diagnosis is often missed. Prompt diagnosis of a displaced avulsion fracture of the ischial tuberosity will enable early surgery where appropriate. This in turn will prevent the development of chronic pain on sitting and walking and an inability to return to sporting activities.

We report a case of an adolescent patient who sustained an ischial tuberosity avulsion fracture, treated by open reduction and internal fixation with an excellent outcome after failed conservative treatment.

BONE GRAFT SUBSTITUTES IN THE TREATMENT OF BENIGN BONE LESIONS

INTRODUCTION

Bone grafts are widely used by surgeons to correct bone defects resulting from a variety of causes, including tumors, trauma, and infection. Autogenous bone remains the ideal material for grafting because it is not antigenic and it has both osteoinductive and osteogenic properties. However, because autogenous grafting is associated with several shortcomings and complications including limited quantities of bone for harvest and donor-site morbidity, alternatives have been used in a wide range of orthopaedic pathologic conditions.

We report a case of successful treatment of a bony defect, after excising a nonossifying fibroma, filled with composite bone graft substitute and discuss the bone grafting substitutes currently available including many preparations of ceramics, demineralized bone matrix, and bone marrow in the treatment of benign bone lesions.