9B: Upper–Lower Limb Trauma

A review of the functional results of 258 adult distal radius fractures

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Introduction: Fractures of the distal radius are among the most common skeletal injuries. However, there remains controversy as to how they are best treated. Though there is literature to suggest that operative interventions can enhance the radiological picture, there is no definitive evidence that surgery improves the patient's functional outcome.

Outcome assessments are an important method of evaluating the efficacy of a procedure. They allow the surgeon to distinguish between modalities of treatment, but there are no clear guidelines as to which one should be used.

Methods: Over a 1-year period, 794 patients were coded as having sustained wrist fractures by the hospital accident and emergency department. Of the cohort, 258 X-rays were identified as distal radius fractures configurations, which were classified according to AO. Management included casting, K-wires or a volar plating system. All patients were sent the validated Patient Rated Wrist Evaluation (PRWE) and the Disabilities of the Arm, Shoulder and Hand (DASH) questionnaires for completion.

Results: The functional assessments were administered between 330 and 690 days after the original fracture. The mean age of the patients was 63 years. After accounting for injury severity using the AO classification, no significant difference in outcome was found between the three treatment options ($p = 0.86$). The questionnaires were found to correlate well, with a Pearson's correlation coefficient between the PRWE and DASH scores of 0.88.

Discussion: Surgical intervention does not necessarily improve the patient's functional result. Either validated questionnaire is appropriate to use for distal radius fractures, with little indication for both together in the future.

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9B.2

Management of large traumatic segmental defects of the femur with the Capanna technique

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Introduction and aim: Segmental defects of the distal femur following trauma pose a reconstructive challenge. A reliable, stable reconstruction capable of withstanding high forces while allowing early mobility is paramount. The Capanna technique of reconstruction combining a massive allograft with vascularised bone graft provides such a construct and has been described for oncological resection. We present our experience with this technique in post-traumatic defects.

Methods and results: Three reconstructions were performed for distal femoral segmental loss following trauma. One patient had bilateral reconstructions. Bone defects measuring 11, 9 and 8 cm were reconstructed using an allograft and free fibular flap.

Both patients made uneventful recoveries and achieved full weight bearing without walking aids at 6 months. Range of movement of each knee joint measured between 0 and 90 degrees.

turing and allowing axial loading of healing bone. It avoids the problems of frames and bone lengthening techniques. We have found it is a very good alternative to other established techniques of managing significant segmental defects of the distal femur.

Keywords: Capanna technique; Segmental defects; Massive structural allograft; Vascularised fibula graft

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9B.3

Do creatine kinase (CK) levels influence the diagnosis or outcome in patients with compartment syndrome

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Acute compartment syndrome is both a limb and life threatening emergency. Early diagnosis is of paramount importance, and intra-compartmental pressure (ICP) monitoring is recommended. However, ICP monitoring requires a clear understanding of the pathophysiology of compartment syndrome for proper clinical co-relation, and also many hospitals in the UK do not have the equipment for the measurement of ICP.

We report a retrospective study in patients with compartment syndrome with the aim to analyse: (1) whether the level of rise in CK levels is a useful marker to the presence of compartment syndrome and (2) whether an early fasciotomy assists in lowering of the elevated CK levels.

We reviewed the case notes of patients with compartment syndrome who had undergone (i) a fasciotomy and (ii) who also had CK levels estimated both on admission and after fasciotomy. Fifteen patients who fulfilled both these criteria were identified. In the eight patients who had their fasciotomy within 12 h, the mean CK level fell from 65,300 IU/ml to 13,300 IU/ml. In contrast patients who had delayed fasciotomy (>12 h) the CK level fell from a mean of 24,800 IU/ml to 16,400 IU/ml. The degree of fall in the level of CK in the patients who had early fasciotomy (<12 h) was found to be statistically significant ($P < 0.05$) using the Mann–Whitney test.

The results of the study suggest that though raised CK levels are not diagnostic, they are a useful adjunct in making a diagnosis, and hence CK estimation should be done in all patients with suspected compartment syndrome. Moreover an early fasciotomy (<12 h) has a statistically significant influence in lowering elevated CK levels, confirming the view that the earlier the decompression, the lesser the muscle damage.

Keywords: Creatine kinase; Compartment syndrome

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9B.4

Clopidogrel and hip fracture: A case series of 798 patients to one year

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There is currently controversy surrounding the optimal management of patients sustaining a proximal femoral fracture whilst on Clopidogrel. Contentious issues include delaying surgery to allow the anti-platelet effect to diminish and method of anaesthesia used.

We present a case series of 798 consecutive admissions with proximal femoral fractures, fourteen (1.8%) of whom were taking Clopidogrel. Both cohorts were treated identically. Patients were