

治療雙磷酸鹽類相關非典型股骨骨折經驗

O-84

**Treatment of long-term bisphosphonate related atypical femoral fractures:
our institution experience**

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Introduction: Bisphosphonates (BPs), such as alendronate (ALN), are now considered the mainstay medication for the treatment of osteoporosis, particularly effective in reducing the risk of vertebral and hip fractures. However, atypical femoral fracture associated with long-term ALN therapy was an emerging issue currently. There has been few information regarding the management and outcome of these fractures. The purpose of this study was to retrospectively review experience of medical and surgical management for atypical femoral fracture with long-term ALN use in a tertiary referral center in Taiwan.

Materials and Methods: Between January 2004 and December 2011, we have treated 10 atypical femoral fractures in 6 consecutive osteoporotic patients previously with ALN therapy (70 mg/wk) in our institution. All the major features of atypical femoral fractures highlighted in the Task Force Report of the American Society for Bone and Mineral Research (ASBMR) were present in 6 patients. All patients had received medical and surgical treatment by a trauma team in our orthopedic department.

Results: Three of the patients had bilateral femoral fractures sequentially, with one recurrent fracture. The mean age was 79.3 (74 to 84) years. The mean duration of ALN therapy was 5.6 (3 to 9) years. The mean follow-up time was 15 (4 to 31) months. All fracture received close nailing and achieved union. Mean bone union time was 24.2 (18 to 31) months in 5 fractures with continued ALN therapy; three cases treated with strontium ranelate (SR) and had union within six months; one treated with teriparatide (TPTD) had union at the fourth month. Closure of the fracture line was achieved after 7 months of the recurrent fracture case, which received open nailing with bone grafting without above medical treatment post-operatively. The mean union rate was 100%, although delay union was noted in every fracture. There was no post-operative complication or needing for revision.

Conclusions: Closed nailing to support sufficient mechanical stability predicted fracture union in atypical femoral fracture, just like in typical femoral fracture. Open nailing with bone grafting may be beneficial for fracture healing. Immediately discontinuing ALN therapy, with initiating SR or TPTD treatment after operation could accelerate fracture healing. Delay healing may be expected in such fracture. Further prospective investigation is needed for establishing an optimal therapeutic guideline.

手術治療慢性橈骨脫位
Surgical treatment for chronic radial head dislocation

P-026

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Introduction:Chronic radial head dislocation may lead to increasing valgus deformity of the elbow with subsequent ulnar or radial nerve disturbance, restriction of flexion due to obstruction by the radial head, and consequent loss of function due to a combination of stiffness and instability. Secondary degenerative arthritis may be a late sequela. The treatment of chronic radial head dislocation remains controversial. Radial radius with or without reconstruction of the annular ligament with use of the palmaris longus or fascia have been recommended. Observation has also been strongly recommended. The outcomes of surgical treatment of chronic dislocation of the radial head have not been encouraging with reports of redislocations and complications such as stiffness.

Materials and Methods:We report a case about the pure chronic radial head dislocation. This is a 46 y/o male with apst history of panic disorder with agoraphobia. He suffered from L't elbow and wrist pain for two months. At OPD, PE showed limited ROM of L't elbow, especially in supination-pronation ROM. Extension 15 degrees. flexion:105 degrees. X-ray showed anterior dislocation of radial head.He denied any trauma history before.We Make a gently curved incision, beginning over the posterior surface of the lateral humeral epicondyle and continuing downward and medially to a point over the posterior border of the ulna, about 10 cm distal to the tip of the olecranon.Then we use deep fascia of the forearm and rotation pass through the radial neck and tied on the ulna. Then stability of elbow joint was tested. A 2.0mm K-pin was fixed the capitellum to the radial head

Results:We removed the K-wire one week later and encourage the patient to keep rehabilitation.After three months ORTH OPD follow up, the elbow range of motion about flexion: 0-110 degrees without instability sensation. The x-ray revealed the radial head in situ, no anterior dislocation noted. We kept follow the patient condition.

Discussion:Since stability of the elbow joint depends on joint congruity, reduction of the radial head is considered very important. Although there is no argument against reducing a dislocated radial head immediately after dislocation, there are arguments against reducing a chronic dislocation. However, despite the risk of complications, surgery is recommended for active patients. We believe that long-standing radial head dislocation will cause restriction of elbow flexion, deformity of the radial head, overgrowth of the radius, instability of the elbow joint, and early osteoarthritic changes of the elbow joint

Spontaneous atraumatic, nonrheumatic rupture of the extensor pollicis longus tendon A case report

P-027

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Introduction:The rupture of the extensor pollicis tendon due to attrition in the wrist after trauma or proliferative extensor tenosynovitis associated with inflammatory disorders is relatively common. Disruptions without prior trauma or inflammation disorders are uncommon.

Materials and Methods:A 56-year-old male patient visited our hospital with complaints of right wrist pain over the dorsoradial area and inability to extend fully the right thumb for 2 weeks. Physical examination revealed swelling and tenderness over the dorsum of the right wrist. Flexion of the thumb was possible but active extension was not at the level of the interphalangeal joint. The plain radiographs showed neither signs of a fracture nor abnormality. The rheumatoid factor level, the erythrocyte sedimentation rate and C-reactive protein level were normal respectively. The patient received a local injection of steroid twice 4 weeks ago. The clinical findings clearly indicated a rupture of the EPL tendon. The surgical intervention was planned without an MRI or ultrasound. The rupture was within the extensor retinaculum whereas tenosynovitis and synovitis around the Lister's tubercle could not be confirmed. The extensor carpi radialis were found complete rupture incidentally and the bulging mass was over the second compartment. Tendon graft from palmaris longus tendon was performed. Postoperatively, a short-arm splint was applied to the wrist in extension and the thumb in abduction and extension for 6 weeks.

Results:The range of extension of the thumb was satisfactory at the 2nd postoperative month. The wrist pain over dorsoradial area subsided after bulging mass was removed.

Discussion:Spontaneous rupture of the EPL has rarely been reported in the literature. Various mechanisms had been reported and the most cases had a trauma history. Our case denied trauma history or systemic disease had the spontaneous rupture of the EPL. Due to persistent gap we make free palmaris tendon graft for repair.

藉由電腦影像分析探討扳機指之臨床嚴重度與病理變化程度之關聯性
Correlations Between Clinical Severity and Pathological Changes of Trigger Finger by Computer Image Analysis

P-028

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Introduction:Trigger finger is a common acquired disease due to thickness and narrow of the A1 pulley that the flexor tendon cannot glide through it smoothly. Green's classification is well-documented for clinical grading. The patients with grade IIIA, IIIB and IV might need surgical release. The major pathological features in the hemotoxylin & eosin stained tissue section slides are (1) chondroid metaplasia with blue color matrix and (2) presence of chondrocytes with round nuclei, comparing to the normal A1 pulley with pink collagen deposit and fibrocytes with elongated nuclei. The purposes of this study were (A) to analyze the two characteristic pathologic changes in the microscopic images by computer and develop a novel automatic quantitative measurement method, and (B) to evaluate the correlations of clinical severity and the pathologic grading system by pathologist and computer analysis.

Materials and Methods:There were 26 A1 pulley tissue section slides (8 high, 8 middle and 4 low, graded by pathologist subjectively) from patients of TYH and NCKUH and 3 normal from cadavers. In each slide, 10 representative microscopic images of high power field were analyzed by computer. The automatic quantitative measurements included 2 parameters: blue area/total area ratio, and round nucleus number/total nucleus number ratio. History and clinical severity based on Green's classification were reviewed in 21 cases. Statistic were performed by Student's t-test and Pearson's chi-square test and take P value < 0.05 as significant.

Results:The blue area/total area ratios were significant increased in the pathologically low, middle and high grade groups (low 0.12, middle 0.20, high 0.30; p<0.005). The ratios of rounded nuclei number were also increased (low 0.56, middle 0.64, high 0.72; p<0.028). The clinical severity is well correlate to the pathologic grade (Pearson correlation 0.678, p = 0.001).

Discussion and Conclusion:A novel computer analysis system was successfully developed to help pathologist evaluate the severity of trigger finger. The clinical severity was closely related to the pathological changes including the amount of chondroid matrix and the number of metaplastic chondrocytes.