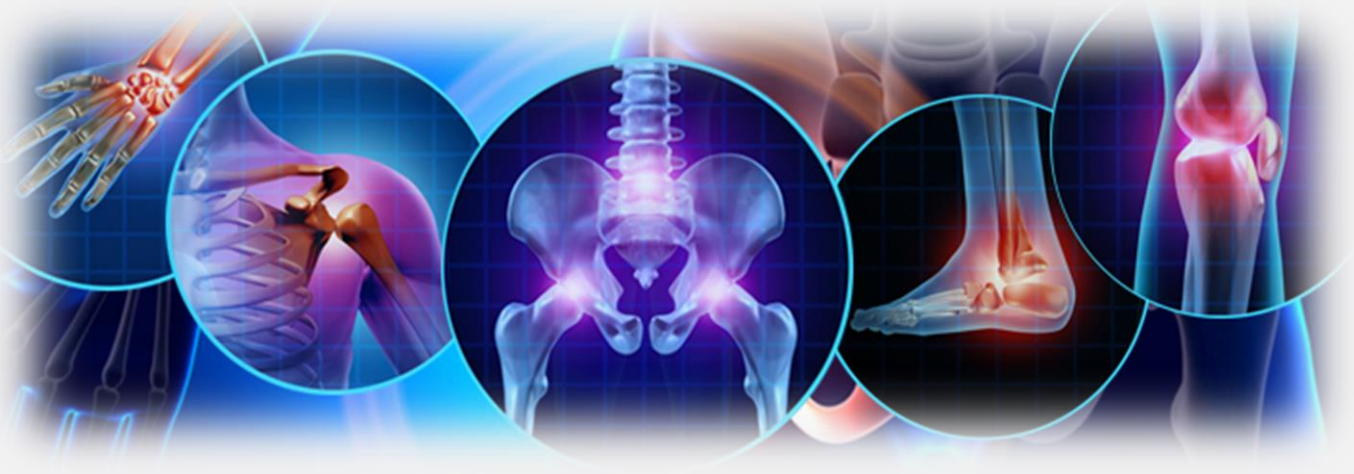


ORTHO NEWSCAST



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Dear Doctor,
Greetings from Micro Labs. We are happy to bring you "Ortho Newscast" which contains latest and interesting news in the field of Orthopaedics.

This issue contains

- Displaced olecranon fractures: The use of bioabsorbable compression screws & polyethylene tension band
- The posterior cortical axis as an alternative reference for femoral component placement in total knee arthroplasty
- Vanishing carpal bones' in a patient with congenital adrenal hyperplasia

Should you require any specific article or medical information, please feel free to contact us at medicalservices@microlabs.in

Looking forward to your valuable feedback

Best Regards,

Medical Team,

Micro Labs Limited



1. Displaced olecranon fractures: The use of bioabsorbable compression screws & polyethylene tension band

Introduction: Transverse fractures of the olecranon are commonly fixed using tension-band wiring techniques. However the superficial nature of this area leads to high complication rates requiring removal of metalwork.



Aim: To evaluate functional outcomes of polyethylene tension-band and bioabsorbable Magnesium alloy screw fixation of olecranon fractures.

Methods: A retrospective case-control study was undertaken. Demographics, injury type and post-operative details were collected. All patients were treated in the same institution by a single surgeon. Primary outcomes included radiographic healing and post-operative range of motion. Secondary outcome was post-operative complications.

Results: A total of five cases were identified. Mean age was 52.4. The control group was made up of six patients treated with a traditional tension band wire fixation. One patient in study group was lost to follow up. 80% of fractures in study group demonstrated anatomic post-operative radiographic union, compared with 83% of control group. All patients had range of motion above 100°, with full pronation and supination. One patient did have an extension lag of 15°.

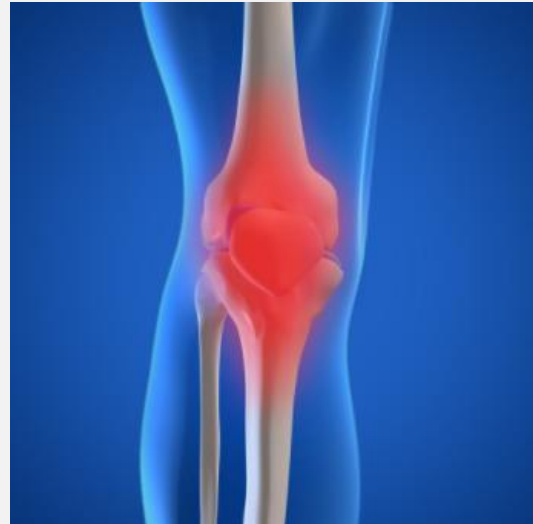
Conclusion: Surgical repair of olecranon fractures is often complicated by the need for re-operation. This method provides both intramedullary fixation and conversion of distraction forces to compression forces with bioabsorbable materials, and aims to reduce the high re-operation rates commonly seen by avoiding the use of permanent indwelling metal hardware.

Reference: Crozier-Shaw G, Mahon J, Bayer TC. The use of bioabsorbable compression screws & polyethylene tension band for fixation of displaced olecranon fractures. *Journal of Orthopaedic.* 202; 22: 525–529.



2. Total knee arthroplasty: The posterior cortical axis as an alternative reference for femoral component placement

Background: Although several reference axes have been established for determining femoral rotational alignment during total knee arthroplasty (TKA), the most accurate axis is undetermined. This study determines the relationship between the posterior cortical axis (PCA) and the trochlear anterior line (TAL) of the femur in relation to the epicondylar axis.



Methods: A total of 341 patients who underwent TKA for osteoarthritis were enrolled. Patients who had undergone previous bony surgery or replacement that might have changed the femoral geometry were excluded. Finally, 336 patients (200 females and 136 males) were included in the study. The angles between the transepicondylar axis (TEA) and TAL and TEA and the femoral PCA (FPCA) were evaluated. We also assessed whether there was any significant differences in variance and gender in these two angles. Student's *t* tests were used to determine the significance of coronal alignment and any gender-based differences. The variances between the TAL/TEA and FPCA/TEA angles were compared using *F* tests.

Results: The FPCA was externally rotated by $2.6^\circ \pm 3.6^\circ$, and the trochlear anterior line was internally rotated by $5.2^\circ \pm 5.5^\circ$, relative to the TEA. Gender-based differences were observed in the comparisons between anatomical references and TEA.

Conclusions: The FPCA is a more conservative landmark than the TAL for intraoperative or postoperative approximation of the TEA. When conventional reference axes, such as the posterior condylar axis and the anteroposterior axis, are inaccurate, surgeons can refer to this alternative reference. These findings demonstrate that the FPCA may be useful for determining the rotational alignment of the femoral component before and during TKA.



3. Vanishing carpal bones' in a patient with congenital adrenal hyperplasia

Background: The vanishing bone disease, also known as Gorhams disease usually involves long bones. Isolated carpal bone involvement is uncommon.

Patient information: A 14 year old male presented with pain in the right wrist joint since 4 months. He was a known case of Congenital Adrenal Hyperplasia on oral steroids for 3 years.



Radiographs of the wrist showing osteolysis with deformed scaphoid, lunate and triquetrum.

On clinical examination tenderness was noted over the scapho-lunate region. Wrist movements were restricted. He was unable to perform his daily activities using the affected limb.

Radiological assessment showed osteolysis with deformed carpal bones involving the scaphoid, lunate and triquetrum. In view of his primary condition and steroid therapy, a preliminary diagnosis of avascular necrosis was suspected.

X-rays showed deformed arthritic scaphoid, lunate and capitate. A proximal row carpectomy was performed to provide functional wrist mobility to the patient. Histopathological examination was consistent with Gorham's disease.

Discussion: The treatment modalities for Gorham's disease are based on the site of involvement. Excision of the involved bone when feasible, radiotherapy, endoprosthetic replacement and even amputation have been described in progressive cases.

Conclusion: In a patient with systemic disease receiving steroid therapy Gorhams disease poses a diagnostic challenge.

Reference: Kamath SK, Jayakrishnan K N, Acharya A, Bhat AK. "Vanishing carpal bones" in a patient with congenital adrenal hyperplasia – A diagnostic dilemma. Journal of Orthopaedics. 2020; 22:493–496.



