

Case study

Association of abennet and trapezius fracture : case report

Abstract :

The association of Bennet fracture and fracture of the trapizius are rare, the authors report a case of 56 yearsold male after a slip, whowere treated by percutaneouspinningaccording to Iselin technique. Functionaloutcomesweresatisfyingafter 1year follow-up.

Introduction :

The trapezium fracture is a rare injury and represents 3% of carpal fractures (1); it can beisolated or associatedwithother injuries, the mostcommonbeingBennett's fracture (2). The trapeziometacarpal joint is a complex joint due to its high degree of mobility, and the mechanismisoftencombined. Carefulanalysis of the radiographisfundamental to not miss anytrapeziumlesionsthatmay lead to rhizarthrosis. Through an observation of a patient presentingwith a trapezium fracture associatedwith a Bennett's fracture and a literaturereview, wewilldiscuss the diagnostic and therapeuticparticularities of thisexceptionalinjury association.

Case Presentation :

A 56-year-old patient presented to the emergency departmentwith a closed trauma to the right wristfollowing a slip with the reception point being the palm of the right hand in dorsiflexion. Clinicalexaminationrevealed pain and total functional impotence withedema of the thenarcompartmentwithoutdownstreamvascular or neurologicaldisorders. A wrist X-ray (fig 1) showed an intra-articular vertical fracture of the trapeziumassociatedwith a Bennett's fracture withinternaldisplacement of the articular fragment but without dislocation of the first metacarpalbone. A CT scan wasrequested (fig 2), whichdid not show anyassociated dislocation or lesion.

Comment [اشرف1]: The abstract needs to be reformulated in terms of historical reference, which the researcher showed is rare, and he has to mention the ages from and to and who are most vulnerable to it

Comment [اشرف2]: Was

Comment [اشرف3]: The introduction should be reformulated in terms of historical reference. The researcher should mention who are the people most vulnerable to infection, what are the most exposed ages, and what is the natural range of treatment

Talking about the Iselin technique



Fig 1: Trapezium fracture associated with a Bennett's fracture



Fig 2: CT scan image showing a trapezium fracture associated with a Bennett's fracture.

The patient underwent surgical treatment under local-regional anesthesia. Reduction was performed by closed external manipulation under fluoroscopic control. Osteosynthesis by pinning according to the Islin technique was performed, with spontaneous anatomical reduction of the trapezium fracture. Postoperative immobilization with a commissural plaster splint was carried out for six weeks, followed by a wrist and hand rehabilitation protocol.

Comment [اشرف 14]: Marking the fracture site and giving a symbol such as A, as well as the rest of the pictures

The patient had a favorable outcome after a one-year follow-up, with consolidation of the fractures and functional recovery.

DISCUSSION

The trapezium fracture is a rare injury, accounting for only 3% of all carpal fractures (3). It is associated with the Bennett fracture in 15% of cases (4).

There are two theories regarding the pathogenesis of trapezium fractures. According to Manon's theory, a fall on the hand in dorsal flexion and radial inclination causes the radial styloid to wedge into the trapezium, combined with tearing by the trapezoid ligament. Monsche's theory talks about a commissural shear that results in trapezium fracture, trapeziometacarpal dislocation, or first metacarpal base fracture depending on the application point (5).

Comment [اشرف 15]: This passage is useful in the introduction

Radiography confirms the diagnosis, but the overlap of the trapezium with the trapezoid does not always allow the fracture to be visualized on frontal and profile incidences. The Robert incidence, performed with the hand in pronation, shows the body of the trapezium. CT scan allows for further evaluation in difficult cases.

Orthopedic treatment with plaster immobilization with thumb in opposition gives good results for isolated and non-displaced trapezium fractures (6). This treatment is not indicated in the case of association with a Bennett fracture.

Reduction of these fractures should be anatomical due to their articular nature, and it can be done by open or closed reduction. For fractures with large fragments, osteosynthesis can be done using thin Kirschner wires or Herbert screws (7). Osteosynthesis with screws should be preferred. Trapezectomy may be considered in comminuted fractures (7), and non-anatomical reduction exposes to complications, including rhizarthrosis.

Bennett fracture requires closed reduction osteosynthesis by percutaneous pinning, and several techniques are proposed. Iselin's technique is the most commonly used, and open reduction and internal fixation allow for the reduction of the articular surfaces.

CONCLUSION :

The association of ipsilateral trapezium and Bennett fractures is rare, and the diagnosis may be incorrect, which highlights the importance of specific radiological incidences and complementary CT scan. Adequate treatment can prevent complications, mainly represented by rhizarthrosis.

Comment [اشرف 16]: We conclude from the foregoing the importance of complementing the clip and showing its importance to you in treating the condition that you have, and what your directions to those who provide healthcare

References :

- 1- Razemon JP. Carpal bone fractures. In: Tubiana R, editor.
- 2- Simultaneous trapezium and Bennett fractures: about a case

Comment [اشرف 17]: Sources 1 to 3 and 5 need to bring the bumper in full. I did not find it. It must be rewritten as in Source 4. The sources need more and more recent ones.

3 - BENNETT'S FRACTURE COMBINED WITH FRA TRAPEZIUM A report of three cases

4- Sharp, J. (1988). Fracture of the trapezium: Mechanism, pathology and indications for treatment. *Fr. J. OrthopSurg.*, 3, 380-391

5- Simultaneoustrapezius and Bennett fractures: about a case and review of the literature

6-McGuigan FX. Simultaneoustrapezium and Bennett's fractures. *Comment J Hand Surg* 1993; 18A: 944

7- Pointu J et al. Trapezius fractures: mechanism, anatomo-pathology and therapeutic indications. *Rev. Chir Orthop* 1988; 5: 454-65

Comment [اشرف 18]: Pointu, J. (1988). Fracture of the trapezium: Mechanism, pathology and indications for treatment. *Fr. J. OrthopSurg.*, 3, 380-391.

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