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Editorial

Excision of the Trapezium for Carpometacarpal Osteoarthritis of the Base of the Thumb

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Orthopaedics is an evolving speciality by numerous minimally invasive procedures coming into literature these days. I have done extensive original research work on the following topic, which had originally appeared in the following journal. The original work and extracts from them have been quoted (From 1982 till to date-over the last 35 years) from various Orthopaedic Centres in Australia, Europe, U.K. and the U.S., in various journals, Year Book and Reputed text books as follows:

The Results of Excision of the Trapezium-Iyer, K.M. (1981) The Hand 13: 246-250
My original research work on The Results of Excision of the Trapezium
Referred to in Wheeless' Textbook of Orthopaedics- wheelessonline.com-Osteoarthritis-CMC Arthritis-Excision of the Trapezium.

Osteoarthritis of the carpometacarpal joint of the thumb is a frequent clinical entity which can be extremely disabling as it greatly limits function of the thumb as well of the hand. The presenting complaints are mainly pain centered over the thumb which is aggravated by movements, swelling over the base of the thumb and stiffness of the thumb. Operative procedures advocated for this condition have included forage, intra-articular tenodesis, excision of the trapezium, arthrodesis of the carpometacarpal joint of the thumb, silicone rubber sponge interpositional arthroplasty and prosthetic replacement of the trapezium. Excision of the trapezium is considered to be satisfactory operation for osteoarthritis of the carpometacarpal joint of the thumb with relief of pain and increased mobility of the thumb. Gervis [2,3] dominates treatment for this condition and most people accept his views. Excision of the trapezium is particularly preferable as a simple, rapid and effective way of relieving and restoring function though some amount of residual weakness of opposition grip and pinch grip after trapeziectomy does exist (Figure 1).

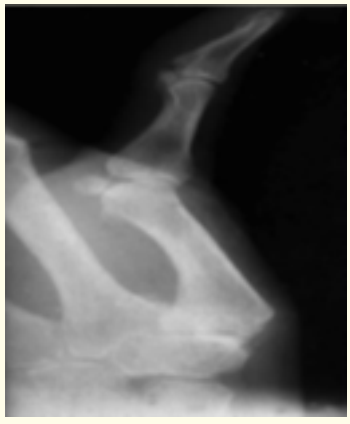

Figure 1: *Carpometacarpal Osteoarthritis-Stage 4.*

It is particularly the procedure of choice in patients who also have associated trapezio-scaphoid arthritis.

A clinical and radiological review of excision of the trapezium for carpometacarpal arthritis of the thumb is herewith presented. Excision of the trapezium gives good results particularly with respect to relief of pain. Hand function is good following excision of the trapezium despite some reduction in the power of opposition grip and pinch grip in majority of the patients. This clinical feature may be accounted by the carpal instability or laxity that can exist following the operation. Arthrography has revealed the presence of a definite joint space between the base of the first metacarpal and the distal scaphoid. This joint space is irregular and of smaller capacity within the first six months of surgery which becomes larger and regular in contour with time. The arthrographic appearances do not provide any indication as to the clinical outcome but when it showed marked subluxation after operation there was a mechanically poor grip. One patient in the review is presented with late deterioration due to degenerative changes in the pseudoarthrosis that had once been satisfactory.

A review of twenty-six wrists in eighteen patients who underwent excision of the trapezium for carpometacarpal arthritis of the thumb was carried out.

Features pertaining to the surgical incision, technique and post-operative management were also recorded. Clinical examination included noting the range and power of thumb movements namely abduction, adduction, flexion, extension, opposition and circumduction. Routine radiographs of the wrist were taken in the anteroposterior and lateral projections. An arthrogram was performed on all wrists reviewed to which patients willingly consented. Arthrographic evaluation of the pseudojoint showed that all the 26 wrists showed the presence of a distinct joint space which could be outlined.

Radiographs of the only case in the series which showed evidence of late deterioration of the pseudoarthrosis due to degenerative changes, showed marked sclerosis of the distal scaphoid and the base of the first metacarpal.

This review agrees with Aune [1], Murley [4], Weinman and Lipscomb [5] that carpometacarpal arthritis of the thumb is common in women around the age of 60 years. At this age once pain is relieved patients are not too concerned about stability or movements. There is usually some permanent diminution of grip strength which has been observed by many authors in the past. Removal of the trapezium is technically difficult as the trapezium is enclosed in a tough capsule and ligaments.

The results compare well with other authors in respect to the time taken post-operatively of 3 months to recover useful painless function of the hand. The precise technique of operation and post-operative management did not seem to affect the clinical end result.

Little or no mention has been made in literature of the form of the pseudojoint which results between the base of the first metacarpal and the distal scaphoid. After the operation, granulation and fibroblastic tissue must fill the cavity of the trapezium and leave only an irregular small capacity joint space (Figure 2).

Figure 2: *Arthrogram done with 3 months after Surgery.*

In time, the capacity of the joint increases and extends between the opposing surfaces and the contour changes into a fairly regular pattern (Figure 3).

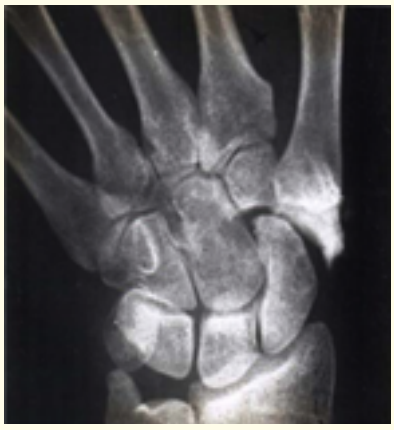

Figure 3: *Arthrogram done within 6 months after Surgery.*

Arthrogram of the wrist joint has been used in the evaluation of trauma by Kessler and Silberman, Ganel., *et al.* [6], and also of rheumatoid arthritis of the wrist by Harrison., *et al*. [7], Ranawat., *et al* [8]. Arthrography of the metacarpo-scaphoid joint proves with certainty the success of the arthroplasty procedure by presence of a distinct joint space. Some of the arthrograms showed a larger joint than others but this fact did not appear to be related to the clinical end result.

I have also expressed the same feelings in my Editorial to the Journal of Medical Thesis [9]. I have been following it till today as seen in the thesis submitted by Guus at the University of Erasmus MC, Netherlands [10] whose findings have been widely quoted in literature till today.

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