

THE HAND PATIENT

A Selection of Case Studies for Quick Reference

Having had the pleasure to teach and train students for many years, and the privilege of having patients referred to me by ex-student General Practitioners, one realizes that medical school training can only impart but a general overview of knowledge. It is impossible and unfair to expect of any medical student to "know it all".

For this reason continuing medical education, or Continuing Professional Development (CPD) as it is now known in South Africa, is imperative.

This post-graduate training should however, be presented in such a way that the busy practitioner readily has access to the relevant information in a succinct form and in an understandable jargon.

Communication between the referring doctor and the specialist should not only include information regarding that particular patient, but should also contain some informative detail on the pathology and management.

This continuing education is part of the responsibilities of a consultant specialist.

It is sincerely hoped that this edited collection of selected case reports will promote a well-informed communication between the practitioner and his/her "hand patient".

Mennen, U.

MBChB, FRCS (Glasg), FRCS (Edin), FCS (SA) Orth., MMed (Orth), MD (Ort) Pret
Head: Department Hand- and Microsurgery, MEDUNSA

FIRST CARPO-METACARPAL OSTEO-ARTHRITIS

Dear Colleague

RE: YOUR PATIENT WITH PAIN
AT THE BASE OF HER LEFT THUMB

Thank you for your referral of Mrs F C M, a 56 year old right dominant secretary, who has been complaining of pain in the base of her left thumb for the past year. She cannot pick up any files or other objects at her work and in fact has dropped a number of plates and dishes at home because of pain and weakness in the thumb. She has also noticed a swelling, which developed at the base of the thumb which, is tender on pressure. Some nights she wakes up due to pain in the thumb. Heat alleviates this pain. According to your letter non-steroidal anti-inflammatories have been tried with great success initially. However, she feels that these tablets have little

effect on her pain and starts to upset her stomach.

On examination one notices the typical osteo-arthritis hands with slight enlargement of the DIP joints of all the fingers. She has a definite swelling which is very tender to palpation and pressure at the base of the left thumb. The first webspace is markedly reduced, resulting in a secondary hyperextension at the MP joint. On the right hand side one notices a similar swelling, however, the symptoms are less pronounced. On axial compression of the thumb she has excruciating pain. The pinching between the thumb and the index finger is possible but weak and painful. The neurovascular examination of the hand is otherwise within normal limits.

The special investigations included plain X-rays of both hands. These reveal

early osteo- arthritis of a number of the DIP joints of her fingers. The first carpo-metacarpal joint of the left thumb reveals severe destruction with subluxation of that joint. Similar, but lesser changes are seen in the same joint on the right hand side. No other abnormalities are detected.

The diagnosis of osteo-arthritis of both hands involving a number of joints, especially the base of the first metacarpal on her left-hand side is made.

The management should involve conservative treatment first. Non-steroidal anti-inflammatories and splints to support the thumb or alternatively a firm bandage to support the thumb would in many circumstances alliviate the pain for some time. A steroid injection with Celestone Soluspan

and a long acting local anaesthetic such as Macain into the first carpo-metacarpal joint could be contemplated in the earlier stages. This may relieve the pain for up to three months and may be repeated should the patient be reluctant to have surgery. One should however note, that cortisone has inherent complications, such as further destruction of the cartilage and may cause atrophy of the soft tissue. The surgical management of osteo-arthritis of the first carpo-metacarpal joint has many variations. It is generally accepted that a silicon replacement of the joint is not acceptable due to a high percentage of silicon synovitis which causes local bone destruction.

Other forms of interposition arthroplasty such as with tendon grafts have been performed successfully. However, this should be combined with technically demanding tendon transfers to reconstruct ligaments in order to stabilize the base of the first metacarpal. It has been our experience over many years with hundreds of cases that a simple excision arthroplasty with restoration of the ligament and capsule produces a consistently satisfying result with minimal complications and very adequate long-term functional result. The intra-operative procedure is a simple excision of the trapezium, release of the tight soft tissue between the first and second metacarpal, excising the corner between trapezoid and scaphoid head, placement of the first metacarpal in the newly created space and fixation with two K-wires. The ligament and capsule is restored and the skin is closed. A volar slab for one week is applied. This is replaced with a circular cast for another three weeks at which time the K-wires are removed under local anaesthetic. A further cast to support the thumb is applied for one week. After these five weeks in plaster, a simple post-op rehabilitation program for opposition of the thumb

is encouraged. Usually patients have full function three months after surgery with a very low morbidity.

DISCUSSION:

The first carpo-metacarpal joint is one of the most developed joints in the body. This joint allows opposition of the thumb to the fingers. This joint allows movement in all directions and is stabilized by a number of ligaments and ten muscles. This highly developed mechanism allows us to manipulate objects which is typical of the human hand as opposed to the non-human primate hand. Osteo arthritis of this joint unfortunately occurs in the post-menopausal period and is mainly seen in the female. Injury or overuse of the thumb is not an etiological factor. One often sees the development of osteo-arthritis in the non-dominant hand and in occupations which demand little manual labor. Osteo-arthritis of the first carpo-metacarpal joint is often seen in conjunction with other conditions which form part of the so-called osteo-arthritic hand, i.e.

osteo-arthritis of the DIP joints, trigger fingers and carpal tunnel syndrome. One should explain to the patient that these conditions could occur at the same time or develop one after the other.

The differential diagnosis of this condition should exclude De Quervain stenosing tenosynovitis, osteo-arthritis of the scaphoid-trapezium-trapezoid joint (STT joint), scaphoid pathology such as fractures, scapho-lunate disassociation, osteo-arthritis between the radial styloid and scaphoid bone and even lunete pathology such as Kienböck's disease. Osteo-arthritis of the MP joint of the thumb often due to a longstanding collateral ligament injury may sometimes confuse the clinical picture. In some rare cases one sees the development of a trigger thumb after the surgery which may be interpreted as a failure of the procedure. One should explain to the patient that this is part of the osteo-arthritic hand and should be dealt with separately.



First Carpo-Metacarpal joint Osteo-Arthrosis

Swelling over the 1s C-MC joint represents a subluxating joint. The contracted first webspace is evident which results secondarily in a hyperextension of the MP joint. With and excision arthroplasty these three deformities are corrected.