SOUTH AFRICAN ORTHOPAEDIC ASSOCIATION : CLINICAL MEETING

The following cases were presented at a clinical meeting of the S.A. Orthopaedic Association held at Germiston Hospital, Germiston, Transvaal, on 28 February 1958:

1. *A Case of Ollier's Disease of the Forearm, presented by Mr. W. T. Ross*

The patient was first seen at the age of 13 years. For 3 months before, the wrist had started to become crooked. At the time of the first examination there was 1 inch shortening of the forearm with ulnar deviation of the hand. The rest of the skeleton was normal. X-ray examination revealed marked bowing of the radius and a short ulna.

Mr. Ross said that according to Fairbanks this was a typical case of Ollier's disease. It was shown at the meeting of the Association a year previously, when it was suggested (1) that a portion of the fibula should be substituted for the distal end of the ulna, and (2) that an osteotomy of the radius should be performed. Mr. Ross, however, performed an epiphyseodesis of the distal end of the radius by the stapling method. The arm is naturally still shorter than the normal, but the patient, mother and surgeon are satisfied that the forearm is straighter.

Mr. J. Edelstein said: 'Though prepared to accept the picture in Fairbanks' book, I don't see how this can be called a case of Ollier's disease, because there is no evidence of chondro-osteodystrophy. This is the typical deformity that one gets with failure of development of the distal end of the ulna.'

Mr. C. T. Moller said: 'If one examines the distal end of the ulna closely, there is a lack of tubulation which puts the condition into the metaphyseal aclasis (Ollier's disease) group of dyscrasias'.

2. *Two Cases of Osteoclastoma of the Radius presented by Mr. W. T. Ross*

The first patient was first seen in 1951 with a pathological fracture through an osteoclastoma of the distal end of the radius. Mr. Ross treated the condition by excising the affected end of the radius and substituted the upper end of the fibula, which on X-ray at the time simulated almost exactly the morphology of the discarded bone. X-rays taken 6 years later show that the articular cartilage in the reconstituted wrist joint has largely disappeared. Clinically there is some limitation of wrist movement and the patient states that she experiences some pain in the wrist when doing her work.

The second patient, who also had an osteoclastoma of the distal end of the radius, was treated initially by a general surgeon, who prescribed deep X-ray therapy. The tumour progressed in spite of this. Thereafter, this patient was treated by Mr. Ross by the method of fibular substitution.

Biopsy reports on both tumours showed them to be typical giant-cell tumours.

A step in the technique, is the drilling of a hole through the substituted fibula for the reattachment of the brachioradialis tendon.

Mr. J. J. G. Craig said: 'I agree with the method used as applied to the second case, where it can be regarded as an interim substitution of a bone graft for the length of affected bone with the ultimate object of performing an arthrodesis of the wrist. Tumours of the size encountered in the first case can in the vast majority of cases be cured by the method of meticulous curettage of the cavity followed by the filling of the cavity with cancellous bone chips, and I believe this to be the treatment of choice in cases such as this. The small irregularity of the articular surface of a mal-united fracture of the carpal scaphoid almost inevitably results in a degenerative arthritis of the radiocarpal compartment of the wrist joint. How much more certainly will the incongruity of the opposed surfaces of the head of fibula and carpus produce such degeneration in spite of the pleasing X-ray appearances in these cases!'

Mr. B. Polonsky and *Mr. Edelstein* spoke in favour of curettage and filling the cavity with bone chips, but *Mr. G. D. du Toit* said he had found that treatment disappointing and expressed the opinion that osteo-arthritis of the wrist was a small price to pay for the cure of an osteoclastoma. *Mr. I. Henkel* suggested that the measure of success achieved in the treatment of these cases had little to do with the technique employed, the important thing being the type of tumour concerned.

Mr. G. F. Dommisse, in reply to a question on the use made of the bone bank in Pretoria, stated that it had been established that in bone grafting the efficiency of autogenous bone was only slightly superior to that of homogenous bone. He felt that the indications for the use of bone-bank bone were threefold: (1) In the grafting of an extensive area, where it had its place as an adjuvent to the use of autogenous bone; (2) in those cases where one wished to avoid the mutilation of an already shocked patient; and (3) in children.

3. *A Case of Foot Disability presented by Mr. S. Sacks*

In December 1956 the patient sustained a fracture of the ankle in Rhodesia. Three days later the distal end of the fibula was screwed to the tibia and the limb was immobilized in plaster for 4 months. She now has considerable pain in the ankle and the case is presented for suggestions on treatment. X-ray examination showed a medial displacement of the medial malleolus with increase of the space between the talus and the malleolus on that side.

Mr. van Reenen stated that it was probable that there was non-union of the fracture of the medial malleolus and suggested freshening of the fracture site and screwing of the fragments.

Mr. Klein was of the opinion that reconstructive surgery was not warranted. If the symptoms were sufficiently severe, he recommended arthrodesis, probably of the Charnley type.

Mr. C. Morris suggested that the original operation had been technically unsound in that the adjoining surfaces of the distal ends of the tibia and fibula had not been freshened up, and recommended that this should now be done and that the bone ends should be approximated with a lag screw. *Mr. L. H. Muller* raised the point that it had been established that movement normally takes place at the distal tibio-fibular joint and that this should be retained if possible. He was therefore not in agreement with the fixation of this joint by transfixion with a screw. *Mr. Ross* concurred in the fact that movement is normal at this joint, but felt that the best result could now probably be obtained by arthrodesis. *Mr. de Jager* said that degenerative changes in the ankle joint were probably advanced and recommended arthrodesis. *Mr. Edelstein* was of the opinion that after only 15 months

it was rather premature to arthrodese. He suggested that the pain at present being experienced was due to the presence of the loose screw, and that removal of this would probably give the patient 10 years of relatively symptom-free use of the joint before arthrodesis became necessary.

Mr. Moller expressed the opinion that the disability experienced by the patient was due to the extreme valgus of the affected foot, and suggested that this in turn was due in large part to the shortness of the tendo Achillis.

Mr. Sacks suggested that at this stage the screw should be removed and the ankle joint reconstructed.

4. *A Case of Tendon Transplant in Foot, presented by Mr. S. Sacks*

The patient, now aged 12½ years, was admitted to the Fever Hospital with poliomyelitis in 1948. He had a complete paralysis of the right lower extremity but since that time there has been a partial recovery.

He was seen by Mr. Sacks in 1949, having at that time a marked valgus deformity of the right foot. An outside iron and an inside T-strap was ordered, but in spite of this the valgus increased. In 1954 the extensor hallucis longus tendon was transplanted to the first metatarsal. In 1956 the tendo Achillis was lengthened. The longitudinal arch of the foot is now well reconstituted and the patient walks well.

Mr. Sacks made the point that he does not transplant the extensor hallucis longus tendon into the neck of the first metatarsal, but into the mid-shaft; he finds that this gives a better result.

Mr. Morris said this was a wonderful example of the balancing of the foot, which should be embarked upon as soon as possible, as it gave one a better foot to work on if a stabilization later became necessary.

Mr. G. T. du Toit mentioned that in this type of case, after a swing from tendon transplantations to bone operations, operations on tendons were again enjoying a wave of popularity. If faced with the problem initially, he would have done a Grice operation, and been tempted a year or two later to transplant the extensor hallucis longus tendon to a more central position in the foot.

Mr. Henkel stated that recent tests had shown that the tibialis anticus has 3 times the power of the extensor hallucis longus, and the latter could, therefore, at best be used to balance the foot for varus and valgus. *Mr. du Toit* raised the point that one sees cases with no tibialis anticus power but with a good extensor hallucis longus and tibialis posticus, giving so well balanced a foot that no operation was indicated.

Mr. Edelstein said that his experience of this operation had not been so gratifying as the result in this case. It had, however, proved useful when combined with inter-phalangeal fusion in those cases where there is a tendency to cock up the great toe.

Mr. B. Polonsky brought to the notice of the meeting the operation of talo-navicular fusion, which he had found useful in treating this type of valgus foot. The alignment of the foot was greatly improved by this procedure even though it might later be necessary to perform a triple arthrodesis. *Mr. Ross* recorded similar pleasing results from a talo-navicular fusion which, as he pointed out, was performed by Bankart before World War II. *Mr. Edelstein* expressed the opinion that equally gratifying results could be obtained by the Grice operation, which did not entail fusing any joints in so young a child.

Mr. Sacks asked whether anybody present had seen an extensor hallucis tendon transplant which did not later require stabilization. *Mr. Moller* was of the opinion that the secret of success in this case had been the lengthening of the tendo Achillis, and not the extensor hallucis longus transplant. It had been his experience that all these tendon transplant cases later came to stabilization.

5. *A Case of Disability of the Knee presented by Mr. S. Sacks*

The patient, a male aged 40 years, complained of pain above and medial to the upper pole of the left patella. The pain was aggravated by bumps on the knee and by the weight of his child sitting on the knee. He had fallen from a bicycle at the age of 15 years, and had experienced intermittent pain and swelling of the knee since that time. Clinically nothing abnormal was detected in the knee, the only positive finding being ¾ inch of wasting of the quadriceps.

Mr. Sacks had been of the opinion that the pain was probably due to a neuroma, and had embarked on an operation to deal with this. He carried out a serial dissection of the overlying tissues and finished up by performing an arthrotomy, but found nothing. The pain persists. X-ray examination revealed nothing of significance, and there had been no change in the X-ray appearances during the past 4 years.

Mr. Morris believed that the pathology lay in the suprapatellar pouch, having in mind a glioma. He suggested a synovectomy of the suprapatellar pouch.

Mr. I. S. de Wet said that it would appear that there was a disturbance of the trabeculatin at the lower end of the femur, which might indicate the presence of an osteoid osteoma, and suggested the taking of tomographs. *Mr. du Toit* said he had seen a similar case involving the wrist, in which ordinary X-rays revealed nothing, but in which tomographs had shown an osteoid osteoma which was confirmed at operation. In the light of this experience, he suggested minute tomography in this case.

6. *A Case of a Stab Wound of the Neck complicated by Nerve Injury, presented by Mr. C. M. Sarkin.*

The patient was involved in a stabbing incident 3 weeks previously. Examination of the left shoulder showed that he had no power of abduction or external rotation. Internal rotation was performed by the pectoralis major muscle only. The biceps, triceps, supinator and pronator muscles were found to be normal. There was no Horner's syndrome. Anaesthesia was found to be present in the C5/6 dermatome. There was a 1 inch stab wound in the left trapezius above the shoulder and a small stab wound in the neck immediately above the clavicle. This latter wound had resulted in a tender scar, pressure on which gave rise to a burning sensation down the lateral aspect of the left arm and forearm. There was wasting of the left deltoid, supraspinatus and infraspinatus muscles.

Mr. de Wet was of the opinion that there was a partial lesion of the C5/6 trunk. He suggested 3 months' rest on an abduction frame. If there was no improvement, then one should carry out an exploration. *Mr. van Reenen* suggested that if there was no recovery in 3-6 months, then the shoulder should be arthrodesed.

Mr. Ross advised immediate exploration because the trauma in this case had been a clean cut as opposed to the usual traction injury. *Mr. Dommisse* said that in these cases regeneration after suturing a clean cut found at exploration was so slow and uncertain that he would recommend early arthrodesis.

Mr. Sacks advised that the site of the lesion should be explored and the nerve given a chance to recover. *Mr. Moller* suggested that an exploration should be carried out if only to determine the prognosis, and that the affected nerve should be sutured if possible. If this was not feasible, an arthrodesis should be carried out.