The Journal of Bone and Joint Surgery

EDITORIAL

TUBERCULOSIS OF THE HIP JOINT

Most orthopaedic surgeons are craftsmen at heart and find satisfaction in the successful arthrodesis of a diseased joint. Tuberculosis of the hip joint has long been considered the condition above all others in which arthrodesis is desirable. After conservative treatment alone, bony ankylosis is rare, and most patients are left with unsound fibrous ankylosis. The patient with a weak, painful, flexed and adducted hip has considerable disability; furthermore, reactivation of the disease is quite likely to occur. In contrast, the patient with sound bony ankylosis of one hip suffers very little disability if his knee joint and lumbar spine are mobile and there is no undue shortening of the leg.

In this issue of the Journal, Dobson's paper on tuberculosis of the hip will excite immediate interest. His main conclusions are in accordance with generally accepted practice in Great Britain. Tuberculosis is a systemic disease; the patient must first overcome the infection by the aid of constitutional measures and local splinting; then the unsound ankylosis must be converted into a sound ankylosis, and usually this means bone fusion by a surgical operation. Although Dobson states that free movement was restored in seven cases, in one of these reactivation occurred and in the others diagnosis was unproven. In the past, restoration of free movement must have been very rare except in those few cases in which infection remained extra-articular.

There are a number of minor points which always provoke keen argument and on which opinions legitimately differ. The surgeons at Wrightington appear to have been more successful with ilio-femoral arthrodesis than is usual elsewhere; many of us find it easier to obtain sound ankylosis by using the compression principle embodied in ischio-femoral fusion. Again some of us feel happier using the open posterior technique as advocated by Foley* rather than the original technique described by Brittain. Even an ischio-femoral graft may fail if the hip joint is flail and mobile. Under such circumstances it is advisable to use a two-stage procedure, first performing intra-articular fusion and packing the joint with bone chips, and then inserting an ischio-femoral graft. The main value of simple displacement osteotomy is surely in small children, where it is more likely to induce bone ankylosis than in adults. Even if bony ankylosis does not occur, the hip usually remains sufficiently stable and in good position until the patient is old enough for formal arthrodesis. The arguments for using the simpler procedure in children are strong, since in children deformity may recur even after successful ischio-femoral arthrodesis with bone fusion.

These, however, are relatively minor points and they do not detract in the slightest degree from Dobson's main conclusions. But the craftsman's delight in a successful arthrodesis should not blind him to the gloomy side of the picture. Using the best traditional methods the average duration of treatment was thirty months; 23 per cent of the children suffered from premature epiphysal fusion at the knee; the average real shortening was three and a half inches, the greatest seven and a half inches. In both Dobson's and Wilkinson's† series, one-third of the new

* FOLEY, W. B. (1949): *Journal of Bone and Joint Surgery*, **31-B**, 222.

† WILKINSON, M. C. (1947): Intertrochanteric osteotomy for the treatment of tuberculosis of the hip. *Proceedings of the Royal College of Medicine (Section of Orthopaedics)*, **40**, 238.

patients were under six, and a half under eleven years old. What surgeon does not experience an inner conflict every time he sees a child with early tuberculosis of the hip? He tries to reassure the parents, and simultaneously he visualises the raised boot and lax knee. His conscience is quietened by the knowledge that the kindness of the nursing staff will mitigate the hardships of many months of frame-fixation. No wonder a specific drug for tuberculosis has long been sought!

Those of us who have the privilege of working at country hospitals will remember the excitement, tinged with scepticism, with which we greeted the first reports of streptomycin. Two things soon became apparent: first, that its use made surgical operations on tuberculous tissues safer; and second, that many early acute tuberculous lesions could apparently be brought under rapid control. Almost simultaneously we heard of para-amino-salicylic acid and then later of thiosemicarbazone.

We have hardly begun to learn the use of these new drugs. There is evidence that a combination of streptomycin and para-amino-salicylic acid is more effective than either alone, but we do not yet know whether to use them continuously, intermittently or alternately. Streptomycin resistance is still a major problem; and a second course of treatment is usually less effective than the first. If we see a really early acute lesion, it seems wise to try an immediate knock-out blow, and already there are a number of cases in which the infection appears to have been overcome and free movement restored to the affected joint—but we do not know whether these joints are permanently safe or whether they may relapse later. In older lesions with caseation and tissue destruction it seems probable that low concentrations of the drug will encourage the development of streptomycin-resistant strains. Under these circumstances “surgery of access” may be a valuable adjunct—such operations as local resection, synovectomy and drainage as advocated by Robertson-Lavalle may have their use. Finally, in late cases, or after reactivation, streptomycin is an invaluable safeguard when definitive surgery such as arthrodesis is undertaken.

Early diagnosis has now become an urgent necessity. We can no longer wait and see. By the time that unequivocal radiological evidence is apparent the most favourable chance of cure may well have been lost. Joint aspiration, biopsy of synovial membrane and of regional lymph glands, have their place; but all have their limitations and there is still much to learn of their reliability.

It is inevitable when so much is uncertain that there will be different schemes of treatment. Chemotherapy has its dangers. There are the well recognised toxic reactions; there is some evidence not only that mycobacterium tuberculosis may become streptomycin-resistant but that it may become streptomycin-dependent; under certain circumstances it may possibly be stimulated by penicillin. The lesson clearly is that these drugs must be used with discrimination. So long as there are so many variables and unknowns, exact statistical analysis is difficult.

The orthopaedic surgeon has two clear duties: he must give what he believes to be the best treatment for each individual patient; and at the same time he must scrutinise and analyse results with cold impartiality, being willing to alter preconceived plans and theories, remaining open-minded and impartial, being constantly alert to the emergence of significant new factors, and aiming at the reduction of important variables to such numbers as are capable of statistical analysis.

With the development of new antibiotics many of Dobson's observations and comments may become of no more than historical interest. This will hardly detract from the value of his paper, which is a model and example to all orthopaedic surgeons. By similar careful observation, comprehensive follow-up, and detailed analysis, we can hope eventually to discover the wisest combination of surgical and conservative treatment. ROBERT ROAF.