

T.B. SPINE: Revisited
IT IS INTERESTING THAT ONE TINY MICROORGANISM SHOULD
CAUSE OVER THE YEARS

1. So much havoc and misery to the human body
2. So many controversies to the scientific mind.

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Osteoarticular tuberculosis is still prevalent in India. The incidence in general orthopaedic outdoor, amongst non-traumatic cases, varies between 8 to 12 percent. T.B. Spine is the commonest presentation, of osteoarticular tuberculosis, the incidence being 18 to 20 percent of all osteoarticular tuberculosis cases. The spectrum of clinical presentation is very large and it is not uncommon to see cases presenting late with advanced disease and complications. The prevalent management has been a combination of chemotherapy local rest and sometimes surgery. With changing behaviour on the micro-organisms, the changing clinical presentation, the changing pathomechanics and the altered prognosis, a time has come for us to revise the entire thinking about this disease. What looked like a conquered disease, few years ago, has started presenting itself differently making the effective management a challenge.

Most of the cases of tuberculosis of spine in the past presented with picture described in standard text books, uncommon presentations being sporadic. Over last few years these uncommon presentations are seen more and more frequently and now they form about 10 to 12 percent of all cases of tuberculosis of spine. The clinicians, on look out for the standard presentation, may miss and misdiagnose these cases and therefore, may treat them inappropriately.

These cases can present in funniest possible ways. In fact it is a differential diagnosis for almost anything in the spine. The pain, the deformity, may be altogether absent. The expected perilesional osteoporosis may be absent. There could be simultaneous new bone formation in the form of osteophytes and even sclerosis. Multiple segment involvement which was seen in the past only in the moribund and emaciated patients, is seen in many seemingly normal and healthy individuals. Involvement of the disc is no more a rule in the adults. Earlier tubercular infections, both osteoarticular

and non-osteoarticular were almost a monopoly of slum-dwellers and patients from poor socio-economic strata. Now these infections are seen in many healthy, normal individuals including health fanatics and active sportsmen.

The investigations may lead us nowhere. There may be no change in blood profile. The haemoglobin, hematocrite, the differential count, the blood cell morphology may be totally normal. Even in active, florid lesions, the E.S.R. may be normal or low. The tuberculin test may be negative. The caseated necrotic material and the granulations may not reveal a typical tubercle under the microscope. Even in these florid lesions, it may not be possible to culture the organisms. The only clue to the diagnosis may be positive histopathology and sometimes positive culture from another concurrent lesion elsewhere like lungs, abdomen, other skeletal foci, lymph-nodes etc.

Most of us look to the tubercular spine only as a biological disease entity. We hardly pay attention to biomechanical effects of the spinal pathology and of our treatment. Earlier all of us believed the tubercular pathological dislocation is possible only in peripheral joints and C1 C2 C3 and that at other vertebral levels, even in the florid lesions, dislocation, is not possible. This is no more true. With changing pattern and rate of destruction, such biomechanical catastrophies are seen more and more often. We also find that thoracic cage, especially in young patients, does not give as much stability as we all think.

The local segmental deformity changes the spinal alignment and is found to cause disturbances in the adjacent segments. The external braces of different types are unable to control these instabilities satisfactorily.

With newer drugs the biological disease process can be controlled and/or aborted, but the sound local healing may still take as long as 15 to 30 months. In some patients sound bony fusion may never occur. In segmental destruction, if the disease is aborted before cartilaginous end plates of both the adjacent vertebrae are destroyed, and if one of them persists, it may leave

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behind potential for irregular growth and sUBLUXATIONS-dislocations. The final result is influenced by many uncontrollable factors.

Tubercular spine in pediatric population needs even more mature handling. The anterior segment growth disturbances may vary from negligible to profound and may not co-relate with activity of the disease when first seen. The formulae evolved do not work well because of unpredictable growth affection. Moreover these studies did not take into account the instabilities in XYZ axes and their severity. If these children with progressive deformity were not to have subsequent problems, there would be no cause of concern. Unfortunately this is not the case. There are many studies about major kyphotic deformities and they all show:

- Diminished pulmonary function.
- Variable neurological compromise.
- Pain.
- Loss of self image.

We have tried to study the predictive factors which give slightly better speculation of future growth and deformity.

Wo clinicians have been imposing on our patients what we think as correct. The long term follow ups have often proved us wrong. The patients often have very little say in their management. When it comes to

treating tubercular spine our limits of acceptability were unreasonably wide. Certain studies made us believe that chemotherapy is the only thing that is ever needed in spinal tuberculosis. Some inexperienced or disinclined surgeons took shelter of these popular conservative regimes even when patients needed very aggressive surgical procedures. We have found that in young children even at the cost of loosing some vertebral column length, it is worth while doing global fusion of the involved segments, with or without attempts at correction of the local deformity.

Acquired immuno deficiency situations can totally alter the presentation and prognosis in spinal tuberculosis. The primary disease can quickly become multi-segmental even with aggressive treatment. Wound healing's are problematic and secondary infection is the rule. The prognosis is poor, the patients are miserable and are a potential source of danger to the health care personnel. With the alarming rate of increase in AIDS population, we are all going to see more and more of these cases.

A judicious combination of chemotherapy, and surgery in deserving cases has shown marked reduction in duration of the disease, in the cost of treatment, in residual problems and in recurrence rate.