LETTER TO EDITOR

Paradoxical Reactions in Tuberculosis: Clinicians Burnout

We want to make our observations regarding worsening of clinical and radiologic features in a patient of potts spine after institution of antitubercular therapy. The index case is 34 year old male who presented with pain in lower back and fever for past many months. Clinical examination revealed febrile, weak and anxious person with normal clinical examination. His investigations revealed Hb 11.8 mg/dl, TLC, DLC, platelet count were normal. ESR was 52 mm at 1st hour and Mantoux was 12 mm at 72 hrs. CXR, USG abdomen were normal. Brucella agglutination titre was not suggestive for endemic area. Retroviral card test and serology was negative. MRI lumbosacral spine revealed spondylodiscitis L2 and L3 vertebrae with large paraspinal collection. Patient underwent decompression surgery with removal of necrotic collection. Histocytology of the specimens revealed langerhan type giant cells and caseous necrotic material. Patient was put on antitubercular treatment. Patient had subjective worsening after 2 weeks of treatment when repeat imaging revealed accumulation of paraspinal collection exerting pressure on lower end of spinal cord and cauda equina. Patient's antitubercular treatment was continued with addition of dexamethasone. The clinical scenario started improving after 5 days of institution of steroids. The steroids were continued for 4 weeks and then tapered over next 2 weeks. Patient started to show marked clinical improvement at 2 months. The intensive phase of antitubercular therapy was continued for additional one month and maintenance phase was given for 9 months. After one year of institution of treatment patient had no neurologic sequelae and complete radiologic resolution.

Paradoxical reactions occur in patients of tuberculosis varying from 10% to 25% depending on multiple factors. These include HIV status, age of patient, nutritional status,

co morbidities, ethnic groups etc. Sometimes these reactions prove to be more detrimental than tuberculosis unless managed in time.^[1]

1. The diagnosis of tuberculosis involving spine lies primarily on clinical presentation and imaging. Many a times it is difficult to obtain a sample for histopathology, PCR MTB, AFB, or culture. In our clinical practice we emphasize on clinical profile, MRI, ESR, Mantoux for diagnosis as well as follow up of such patients. It is very important for such patients to be evaluated for concomitant active tuberculosis. So tests like sputum for AFB, urine for AFB, CXR should routinely be done.^[2]
2. We have found more often than not, clinical or radiologic worsening in neurospinal tuberculosis who were immunocompromised like HIV, hepatitis B, hepatitis C. In immunocompetent patients on antitubercular therapy we found clinical worsening in less than 2%.(unpublished data)
3. We have observed that those patients of tubercular osteomyelitis with neurologic consequences have higher propensity of paradoxical reactions than who are purely tubercular osteomyelitis or spondylodiscitis.
4. It is pertinent to mention that those patients of tubercular osteomyelitis with neurologic deficits at presentation experienced permanent sequelae if steroids were not instituted concomitant with ATT.
5. We have seen radiologic or clinical deterioration after institution of ATT in mediastinal nodal tuberculosis. It is important to put these patients on steroids along with ATT to prevent respiratory compromise due to rapid increase in size of these nodes. Many times the tubercular nodes increase in size on ATT which may have deteriorating clinical outcome.^[3]
6. Amongst peripheral nodes, cervical nodes demonstrate increase in size after institution of ATT. As the cervical region has lot of space and loose tissues around, it

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allows the increasing size of nodes to be accommodated. It does not merit all such patients to be put on steroids.^[4]

- 7 Last but not least those patients who underwent surgical debridement, drainage of cold abscess or removal of necrotic debris did better on antitubercular therapy than otherwise. The morbidity time and continuation of ATT in surgical patients was less than those managed conservatively.

CONCLUSION

The paradoxical reactions in tubercular patients on ATT need to be triaged into two groups.

- a. Those reactions which are lethal, severe or organ jeopardizing merits intervention in form of reductive or disease debulking surgery with or without steroids. For example increasing mediastinal nodes causing hypoxia or cold abscess causing myeloradiculopathy.
- b. Those reactions where the disease seems to worsen without threat to life or damage to different organs can be managed with wait and watch policy till ATT starts to show control of tuberculosis. For example cervical node increasing in size or new infiltrate appearing on chest x ray.

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