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TB or Not TB- That is the Question: Misdiagnosis of Spinal Metastasis As Tuberculosis Spine

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Abstract: *Introduction: Due to the increased prevelance of Tubeculosis and the practical acceptance of Trial Anti Tubercular Therapy (ATT), it is the first diagnosis that comes to our mind while anaplastic conditions are our last bet.On failure to respond to ATT, we go for Gene Xpert test, biopsy and other tests to check for Drug Resistance TB or anaplastics. Aim; To find the correct diagnosis of nonresponders to ATT Material and* ***Methods****:A retrospective study of the case records of 32 non responders on conventional ATT to find out the actual etiology was done.Anonresponder was defined as one who showed no improvement or actual deterioration after 4 weeks of conventional ATT. Among other investigations, biopsy, Gene Xpert test, work up for metastasis of unknown origin was found to be performed wherever needed for the correct diagnosis.Results: Out of 21, 15 of the nonresponders were anaplastics, 3 were MDR TB and 3 were miscellaneous. None were cases of drug sensitive TB.*

Keywords: *Anti tubercular Therapy, Drug resistant TB, Spinal Metastasis, Biopsy, gene Xpert*

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I. Introduction

After exclusion of posttraumatic, osteopenic and inflammatory arthropathy for chronic back ache the bulk of the etiology is either tuberculosis or anaplastics (metastasis being the most common anaplastic condition).Due to the increased prevelance of Tubeculosis and the practical acceptance of Trial Anti Tubercular Therapy(ATT), it is the first diagnosis that comes to our mind while anaplastic conditions are our last bet. On getting the traid of constitutional symptoms, spondylodiscitis and raised ESR, we start trial ATT, forgetting that the features of TB and anaplastics may mimic each other. On failure to respond to ATT, we go for Gene Xpert test, biopsy and other tests to check for Drug Resistance TB or anaplastics.

II. Aim

To find out the incidence of spinal metastasis diagnosed as and managed as spinal tuberculosis.

III. Material And Methods

A retrospective study of the case records of 21non responders on conventional ATT to find out the actual etiology was done.Anonresponder was defined as one who showed no improvement or actual deterioration after 4 weeks of conventional ATT. Among other investigations, biopsy, Gene Xpert test, work up for metastasis of unknown origin was found to be performed wherever needed for the correct diagnosis.

IV. Results

Out of 21,15 of the nonresponders were anaplastics, 3 were MDR TB and3 were miscellaneous. None were cases of drug sensitive TB.

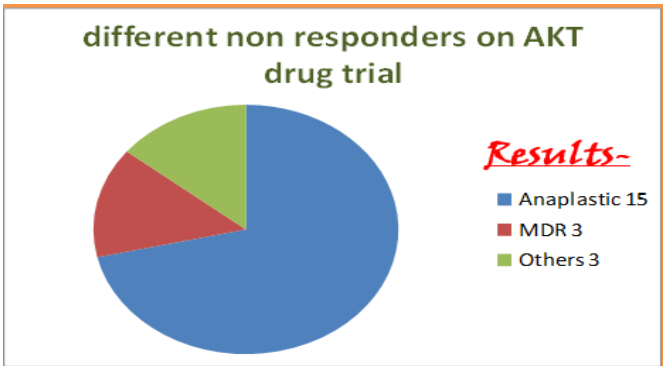
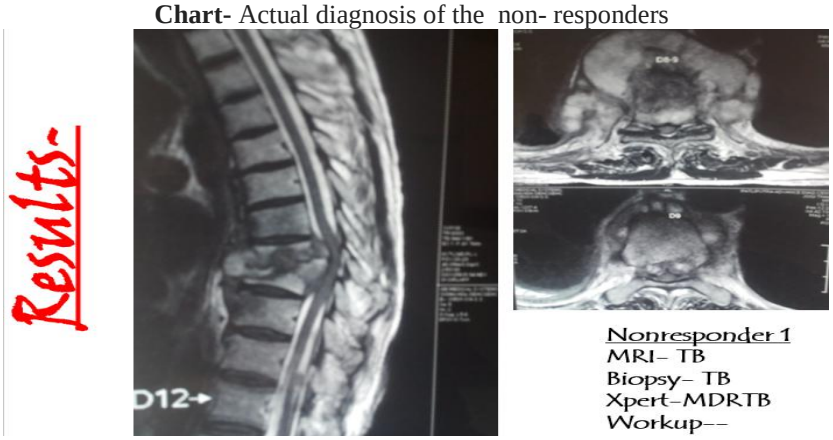
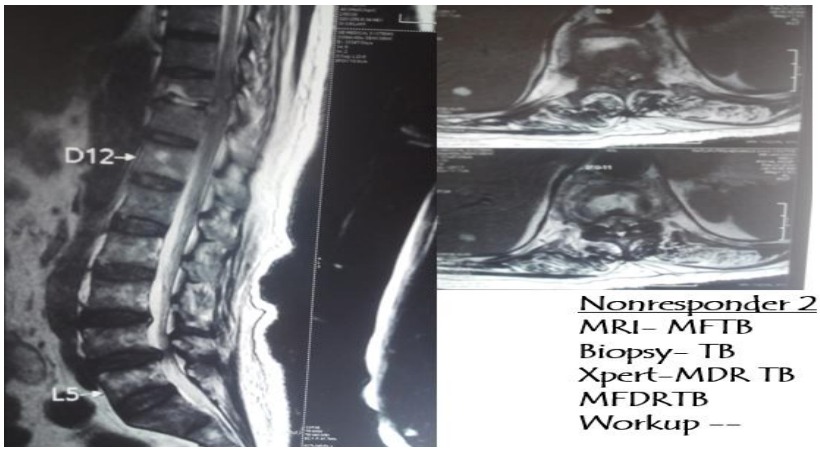
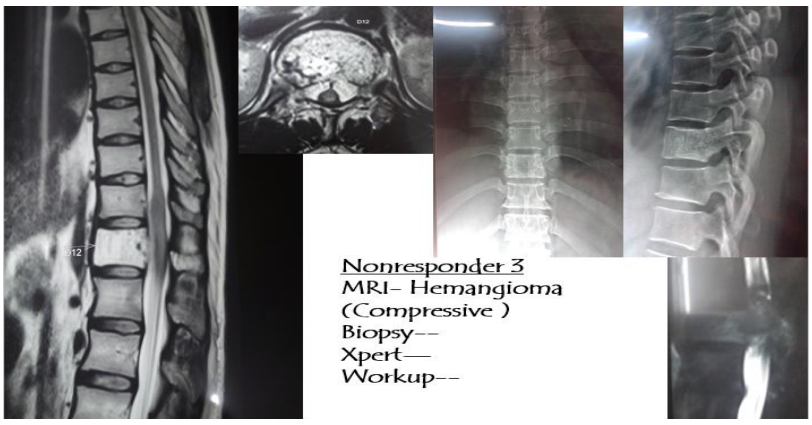
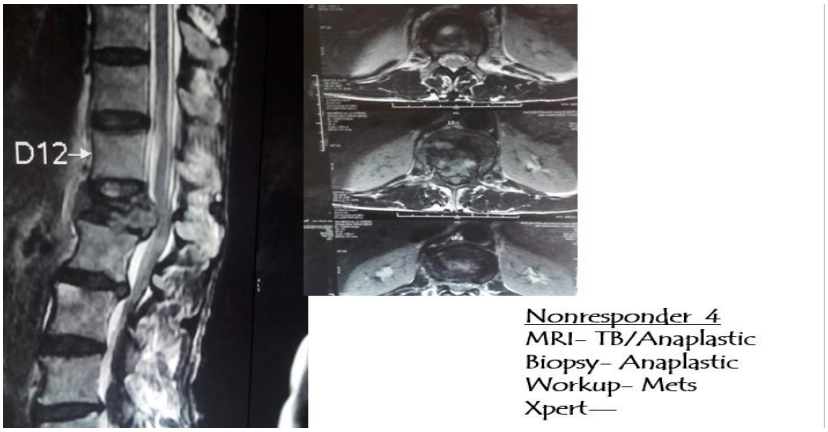


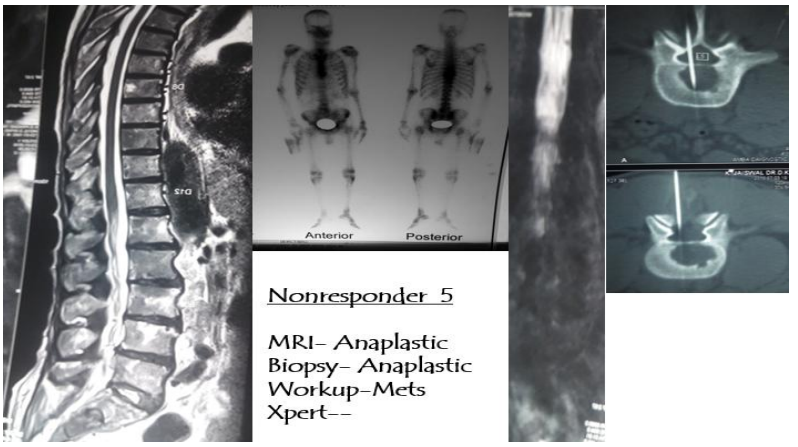
Chart- Actual diagnosis of the non- responders

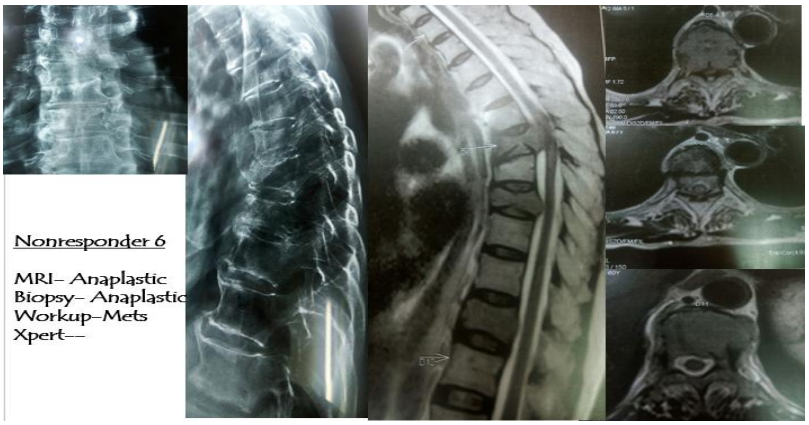


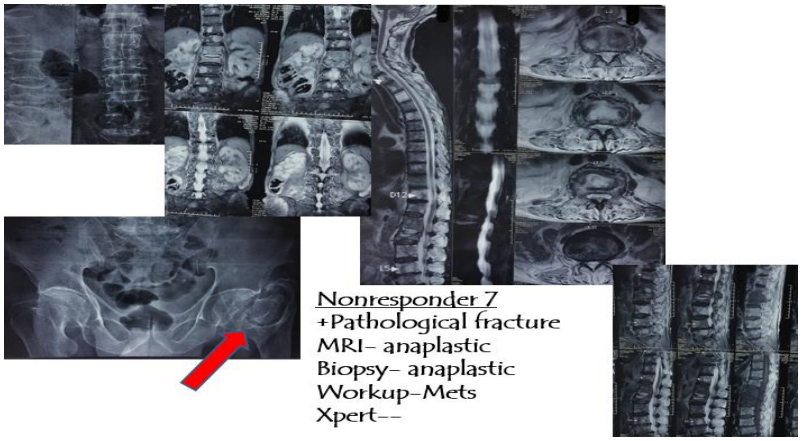












V. Discussion

The diagnosis of TB by history taking, clinical examination and imaging (Xray or MRI) has its own limitations as there is no pathognomonic finding on MRI that reliably distinguishes tuberculosis from other spinal infections or from a possible neoplasm(1,2). And, differentiating spinal TB from pyogenic and fungal vertebral osteomyelitis as well as primary and metastatic spinal tumors may be difficult when only clinical and radiographic findings are considered(3,4). Refinement of diagnostic criteria on MRI is also being done which concludes that a eight point MRI criteria of the vertebral lesions are likely to enhance the diagnostic ability of tuberculous and non tuberculous pathologies thereby reducing the dependency on histopathologic diagnosis or invasive method for early initiation of therapy(5).MRC Trials on spinal tuberculosis and clinical practice over several decades have confirmed that in the regions where tuberculosis is prevalent, a clinical diagnosis supported by radiographs is adequate for starting the treatment, but, for cases not responding to chemotherapy, a biopsy may be required.(6). There is a definite need felt as per studies for a biopsy to be added routinely for the diagnosis of TB.In the absence of an abscess or bone fragments, image-guided biopsy is essential to establish the diagnosis. (7)The tissue obtained by percutaneous methods may not be sufficient for conclusive diagnosis.

But, the absolute need for histological diagnosis in areas where the disease is endemic and facilities for biopsy and histopathology are scarce is still controversial.(8). There has been case reports of anaplastic conditions being diagnosed and treated as TB Spine.(9,10,11), which was the case in most of the patients in our study(21/32). MDR TB of the spine is a different disease and is here to stay with the imaging appearance has becoming more complex with the onset of MDR TB (12,13). The most important cause of the development of MDRTB is the patients receiving erratic, unsupervised second line drugs, added individually and often in incorrect doses, so giving a patient ATT without diagnosis actually increases the chances and spread of MDR, XDR TB(14). The Xpert test has showed a sensitivity of 95.6% and specificity of 96.2% for spinal TB, available within 48 hours compared with a median of 35 days for cultures. It has also been used as an initial diagnostic test for TB detection and rifampicin resistance detection in patients suspected of having TB, MDR-TB, or HIV-associated TB with a good sensitivity and specificity. Developments in this gene testing is also going on by ways of GeneXpert Omni and Xpert Ultra. (15,16)

VI. Conclusion

We should not treat everything as TB. The correct diagnosis should be done before starting ATT. Literature recommends the use of biopsy and it is Safe, easy, reproducible, and has a high diagnostic yield. Also, it is always better to be medicolegally safe. In today's day and age such a delay in the correct diagnosis is not acceptable and hence we recommend not to be overdependant on imaging and on our bias towards TB and Anaplastics should be investigated by biopsy and other tests and rules out at the onset rather than being a diagnosis of excusion(i.e. after exclusion of TB)

References

[1]. MRI diagnosis of tuberculous vertebral osteomyelitisSpine Phil La Bell GR et al Imaging of musculoskeletal tuberculosis: a new look at an old diseaseClinOrthopRelat Res 2002 Griffith JF et al
[2]. Spinal Tuberculosis: Diagnosis and Management Asian Spine J. 2012 Dec Mohammad R. Et al
[3]. Spinal tuberculosis: a diagnostic and management challenge J Neurosurg. 1995 Aug Nussbaum et al
[4]. JNeurosci Rural Pract.2013 Apr Chandrasekhar YB et al
[5]. IndianOrthopaedic Association white paper 2005
[6]. Problems in distinguishing spinal tuberculosis from neoplasia on MRI. Neuroradiology 1996 Gupta RK et al
[7]. Tuberculosis of the spine. IJO 2012 Jain AK, Rajasekaran S.
[8]. Spinal tuberculosis mimicking malignancyN Khattry et al IJP vol 74 March 2007
[9]. A fatal case of spinal tuberculosis mistaken for metastatic lung cancerFC Ringshausen et al annals of clinical microbiology and antimicrobials 2009 8:32 BIOMED central
[10]. Imaging presentation highly manifested as Tuberculosis in a case of spinal metastatic CarcinomaCY Zheng et al Spotlight on spine Orthosupersite.com
[11]. A study of twenty-five culture proven multidrug-resistant tuberculosis spine patients. Spine 2009 Oct PawarUet al
[12]. Central nervous system tuberculosis: pathophysiology and imaging findings. Neuroimaging Clin North Am 2012 Nov Patkar D et al
[13]. DRUG RESISTANT TB.tbfacts
[14]. GeneXpert polymerase chain reaction for spinal tuberculosis: an accurate and rapid diagnostic test.Bone Joint J. Oct 2014 Held M al
[15]. Xpert® MTB/RIF assay for pulmonary tuberculosis and rifampicin resistance in adults.
[16]. Cochrane database Syst review2013 Jan Steingarth et al

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