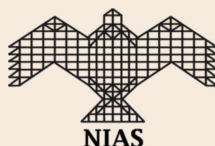


Recurrent TB Infection-A Nightmare!

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Tuberculosis disease among previously treated individuals (recurrent TB) constitutes 5–30% of the TB burden. There has been much effort to make a difference between Relapse & Recurrence. "Recurrence", is generally considered as "the second episode of tuberculosis, after the cure of the first episode". Recurrence may be due to endogenous relapse or exogenous reinfection [1]. Repeated recurrences in the same individual add to the TB burden, but the extent has not been quantified due to difficulties in identifying recurrence in routinely collected data [2]. Therein lies a challenge that needs to be addressed.

This is a brief story of a woman, educated and working in UK and who had to undergo multiple episodes of recurrence.

Mrs R, aged 25 years, consulted me in May 2012 with a history of backache of four months and swelling around the neck of two months. She was based in UK but arrived in India for treatment based on her not-so-good experience managing her disease there.

In UK, she had visited her GP in early February 2012 with a complaint of vague backache of short duration post-pregnancy. Since she had no relief, the GP ordered a chest x-ray that showed normal lung pathology and a mild lower thoracic scoliosis. A subsequent spine x-ray done on 27th February revealed T8 bone loss with bilateral mild paraspinal swelling.

An MRI done on 1st March 2012 was reported as chronic T8-T9 discitis with a large anterior lobular subligamentous abscess and also another abscess lying deep to PLL (posterior longitudinal ligament). No cord compression was found. Minimal involvement of T5, T10 & T11 was seen. Another lesion at L3 was seen. Final Impression: Chronic infection to be considered, including TB. This was sent for urgent cancer referral to London Bone & Soft tissue Sarcoma Service: it was reviewed & referred back to the local spinal team on the 12th Mar 2012. They reviewed the case history but wanted more time for making the line of treatment. Hence she landed in India in late April 2012 with back pain and with additional neck swelling for treatment.

She was referred to me, and a brief history & findings suggested a clinical diagnosis of TB Spine. Since she had multiple cervical lymph node involvement, I requested the surgical team for a FNAC/ Biopsy to make a tissue diagnosis.

We repeated a few Investigations to know the progress of the disease. Routine blood investigations were normal. Chest X-ray was clear. X-ray of TL spine showed features suggestive of Pott's spine with T8-T9 involvement. Paravertebral soft tissue shadow was seen from T6 to T11. MRI of the Thoracic spine showed multiple level involvements with kyphotic deformity at T8-9 spine with collapse.

A FNAC was done for a lymph node in the left submandibular region. Impression was acute suppurative pathology, no granulomas seen. However, ZN (Ziehl Neelsen Acid-fast stain) staining was non-confirmatory. Hence an excision biopsy of the cervical lymph node was done on 10th May 2012. HPE (histopathologic examination) reported on 15th May 2012, as caseating Tuberculous Lymphadenitis.

The Plan of Treatment was AKT-4 (4 drug regimens) for three months & AKT-3 (3 drug regimens) for nine months. No surgical treatment for the spine was contemplated, given multiple skip lesions in the spine and having no neurological disturbances. The patient was regularly reviewed once a month for six months. She improved remarkably with weight increase and improvement in appetite. Her back pain had disappeared. Lymph nodes reduced in size. X-ray Spine showed a reduction in paraspinal shadow. After six months, she left for UK and completed her entire course of treatment for one year ending May 2013 in UK. She had recovered fully.

In July 2014 (14months after stopping ATT), she again noticed a lump in the submandibular region. All investigations were normal, and a FNAC was non-diagnostic. Her spine X-ray showed bone healing, and paraspinal shadow had disappeared. A differential diagnosis was done between a Koch's and a primary lymph gland swelling. She was found to be vitamin D deficient. She was started on Quadruple therapy, which comprised of Rifampicin, Isoniazid, Pyrazinamide & Ethambutol for two months in August 2014. She was on Pyridoxine support and vitamin D supplements at the same time. After two months, she was started on the two-drug regimen for the next four months. All her symptoms and swelling had totally reduced. One of the views put forward by her UK Physician was that deficiency of vitamin D would have triggered her second recurrence of TB.

On 21st Aug 2021 (7 years after the 2nd episode), she came to me with a history of neck swelling. She had relocated to India and was fine till she noticed swelling around the neck. All Blood parameters were normal. MRI showed fusion of T8-9, no paravertebral shadow. The rest of the spine was normal. A Surgical opinion was taken who advised repeat FNAC, which was not conclusive and hence excisional biopsy was done. GeneXpert MTB/RIF was done, and it showed Mycobacterium tuberculosis.

Incidentally, her vitamin D level was very low. HPE showed TB Lymphadenitis. Patient is under surgical care. They have again started on a four-drug regimen for two months, followed by three drugs for two months and, now undergoing two-drug regimens for the next four months as advised by her present surgeon. Her neck swelling has reduced. Investigations are normal.

Conclusion:

Many studies reveal that recurrence in patients who were adequately treated was higher than that of new TB [3]. The recurrence rate is highly variable and has been estimated to range from 4.9% to 47%. Most recurrences happened within 2-years after completion of anti-TB treatments. However, there are reports of recurrence even after ten years. In the above case, the first recurrence was seen after 14 months, and the second recurrence was after six years. The important message to note is that these are not isolated or rare cases. The risk is more among smokers, patients with co-morbid conditions, HIV & malnutrition group.

The high prevalence of vitamin D deficiency in pulmonary TB patients indicates that vitamin D is a risk factor for the development of active tuberculosis [4]. Therefore, maintaining vitamin D status in TB patients might be helpful to controlling tuberculosis [5,6].

The High incidence of recurrence demands a need to improve the quality of TB care through regular follow-up after completing treatment as part of an established disease control strategy. The use of technology for regular follow-up will add great value addition. With every person connected to a mobile phone, monthly follow up of cured and completed sputum smear-positive for the reappearance of symptoms can be planned using mobile applications which will be cost-effective, less human dependent and capable of picking up symptoms early. There is no doubt that with better technology and better access, the possibility of reducing the quantum of tubercular infection is not far off, provided we have the purpose of doing so.

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