Manage TB
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Lecture – 40
Management of Extra-pulmonary TB
Panel discussion

Good morning I am Dr. Sriram, I am a general physician. I welcome all of you today for this Panel discussion on the Practical difficulties faced by us in the management of Extra-pulmonary Tuberculosis.

To discuss this we have with us three doctors to share their experiences and that insights about managing extrapulmonary TB. We have with us Dr. Syed Hissar Chest Physician, hello and we have with us Dr. Bhavani Neurologist and we have with us Dr. Dina Nair Gynecologist, hello.

So, let us start. The topic for today's discussion is on the practical difficulties faced by us in the management of extra-pulmonary TB. All of you will agree with me that in terms of diagnosis and treatment of extra-pulmonary TB it is a challenging issue. So, let us start with Dr. Syed. Dr. Syed, can you share your experience on the diagnostic issues faced in the management of extra-pulmonary TB?

Yes Dr. Sriram, I do agree with you there are challenging issues in the diagnosis of extra-pulmonary tuberculosis. It is extremely difficult to obtain bacteriological confirmation and we normally go for a combination of clinical radiological and histopathological findings for diagnosis.

Extra-pulmonary tuberculosis being paucibacillary we do really require a highly sensitive and specific tools for diagnosis. The existing tools such as smear and culture for AFB are not optimal for diagnosis and that is why we do require molecular diagnostic tool such as Genexpert MTB RIF for maybe it is so important and may be used for diagnosis of extra-pulmonary tuberculosis.

Thank you Dr. Syed. So, Dr. Syed says Genexpert is very useful in the diagnosis of extra-pulmonary TB. So, let us ask Dr. Bhavani, Dr. Bhavani what is your experience in the diagnostic issues of extra-pulmonary TB

The new rapid diagnostic test the Genexpert done on CSF specimens in suspected cases of TB meningitis offers a great help in the diagnosis of TB meningitis though a negative gene expert does not rule out TB meningitis, at least I can rely on the test if it is positive along with other diagnostic methods and clinical features.

Most importantly I can get the results within 24 hours and in addition I will also know whether the mycobacterium is resistant to the Rifampicin or not. Genexpert is purely a game changer as far as TB diagnosis goes.

So, Dr. Bhavani says Genexpert is a game changer. So, to act my experience, so Genexpert MTB RIF is also useful in the diagnosis of TB lymph node using FNAC specimens. Studies have shown that it has a sensitivity of around 80 percent and specificity of 90 percent against culture.

This is very helpful in the diagnosis of extra-pulmonary TB as it offers a better bacteriological proof compared to the FNAC specimens and the smear for AFB. As the positivity rate is very low in these diagnostic methods and now let us move on to the other forms of extra-pulmonary TB. Dr. Syed what is your experience in the management of pleural effusion?

Well, unfortunately we do not have any evidence to show that the Genexpert MTB RIF is very reliable in pleural effusion as the sensitivity is only about 46 percent against the culture for AFB. Basically, we rely on the radiological findings then biochemical reports of pleural fluid and bacteriological tests like smear and culture for MTD.

Moreover, one has to rule out the malignancy in pleural effusion. We had a we had a patient who had a pleural effusion and we were treating with anti tubercular treatment and subsequently we diagnosed malignancy when the pleural effusion did not resolve with att.

Thank you Dr. Syed. Dr. Dina can you share your experiences in the diagnostic issues of extraordinary TB as a gynecologist?

See female infertility is a huge problem we encounter and we do the investigations for TB while we do the work up for infertility, but the diagnosis of TB is very difficult and

we have to rely on tests like ultrasound, CT scan and also some invasive tests like Hysterosalpingogram and Laparoscopy.

Thank you. So, we can see from the discussion that the diagnosis of extra-pulmonary TB is still very challenging. So, though Genexpert offers great help we have to rely on other indirect methods for diagnosing extra-pulmonary TB.

Now, let us move on to the treatment of extra-pulmonary tuberculosis. The issues in the treatment of extra-pulmonary tuberculosis also poses a concern in terms of the regimen, the duration of treatment, when to stop treatment, the role of steroids, the role of surgery, how to assess the progress of treatment

So, here the duration of treatment in the absence of drug resistance is similar to pulmonary TB. So, they are treated with 6 months of daily treatment with first 2 months with rifampicin isoniazid ethambutol and pyrazinamide and the continuation phase for 4 months with rifampicin ethambutol and isoniazid. Only in case of TB of the central nervous system and skeletal system requires a long duration of treatment. Now, let us ask Dr. Bhavani what is the optimal duration for the treatment of extra-pulmonary TB?

For TB meningitis in CNS tuberculosis, at least a 9 month duration of treatment is required where we have a 2 months of intensive phase with 4 drugs, rifampicin, INH, pyrazinamide and ethambutol; followed by a continuation phase for 7 months of duration with rifampicin, INH and ethambutol.

Alternatively, a 12 month regimen with a replacement of pyrazinamide pyrazinamide for ethambutol is also suggested and as per the recent guidelines streptomycin is replaced for ethambutol in the intensive case.

So, what you think is the optimal duration for the management of skeletal T?

The recommendation is for a 2 months duration of 4 drugs with rifampicin, INH, ethambutol and pyrazinamide and continuation phase with 3 drugs rifampacin, INH, and ethambutol The continuation phase can be extended by 3 to 6 months depending on the patients clinical prognosis.

Thank you Dr. Bhavani. Let us ask Dr. Dina about optimal duration for managing female gentility.

The duration is the same as that of pulmonary TB it is 6 months.

Let us now discuss the role of steroids in the management of extra-pulmonary TB. Dr. Syed what do you think is the role of steroids in the management of pleural effusion because it is also one of the common forms of extra-pulmonary TB.

Initially, we were using steroids in the management of tuberculosis pleural effusion; however, the recent evidence suggest that there is no benefit and hence do not recommend steroids use in the management of tuberculosis pleural effusion. However, the steroids are very much recommended for the management of pericardial effusion.

The steroids have a major role in decreasing the constrictive pericarditis as well as minimizing the need of invasive surgery such as pericardiectomy. We had patient who had a massive pericardial effusion and we treated him with a ATT and steroids and he just recovered without any sequelae.

Thank you. Dr. Bhavani what is your experience in the role of steroids in the management of extra-pulmonary TB?

We give steroids for the management of TB meningitis for a period of 4 weeks initially and we taper down at slowly. Studies have shown that steroids reduce a mortality and say as TB and it also plays a crucial component in the management of CNS TB also.

So, it seems that steroids have a great role in the management of CNS TB and TB pericardial effusion and TB pericarditis. Dr. Bhavani what is your opinion on the role of surgery in the management of skeletal TB or spinal TB?

Surgery plays an important role in the management of spinal TB when there is pressure on the spinal cord instability or neurological deficit. We had a patient who had a pott's spine with paraplegia; she recovered well with anti TB drugs and the intervention. Surgery may also be indicated if patient has a cold abscess ok.

Dr. Syed what is your opinion on the role of surgery in the management of extra-pulmonary TB?

Surgery may be indicated in case of complications like gastrointestinal tuberculosis causes strictures which may lead to obstruction very well the surgery will help them. We

had a patient with constrictive pericarditis and we went for a pericardium in that patient and it was a successful case for treatment.

Dr. Bhavani what do you think is the role of surgery in managing neuro TB?

In neuro TB hydrocephalus may be a complication of TB meningitis which has to be managed by ventriculoperitoneal shunt.

So, Dr. Dina what do you think is the role of surgery in the management of extra-pulmonary TB? Surgery is not always indicated in genital TB, it may be required in case of a large residual tubo ovarian abscess. Surgery is actually associated with higher complication rates as there are lot of additions in case of genital TB. It is clear from our discussions that surgical interventions are important in the management of complications or sequelae of extra-pulmonary TB. This necessitates the importance of early diagnosis and treatment of extra-pulmonary TB.

Of course, for obtaining any form of biopsy or specimen of extra-pulmonary TB surgery is required. Another challenge we face in the management of extra-pulmonary TB is when to declare cure and when to stop treatment in the patient.

In case of sputum positive pulmonary TB, we can declare cure at the end of 6 month if the patient has become smear negative. It is difficult to obtain microbiological confirmation in case of extra-pulmonary TB. So, that poses a challenge in declaring cure and stopping treatment. So, let us ask Dr. Syed how does he stops treatment in case of extra-pulmonary TB?

We basically have to rely on clinical progress and radiological improvement in deciding the treatment success in any patient.

Dr. Bhavani what is your approach to stopping treatment for extra-pulmonary TB?

Yes, we have to monitor the patients closely for their clinical progress; however, we are in a dilemma regarding stopping treatment when the patient does not fully recovered and he has got residual neurological deficit and it is also difficult to convince the patient for stopping treatment when he do not feel that he has not fully recovered.

Dr. Syed what do you want to say about this issue? I agree with her, it is it is similar to the case scenario where you treat pulmonary tuberculosis and do see residual lesions in the chest x-ray with smear or culture negative.

However, this is sequelae is not the basis for extending the treatment whether it is a pulmonary or an extra-pulmonary tuberculosis. Residual small fibrosed lymph nodes less than 1 centimeter which persist even after the 6 months of treatment, they do persist and they really do not require any extension of treatment. If at all you extend the treatment they may not be benefited. So, this whole thing needs to be explained to the patient in detail.

Close follow up of the patients clinically, radiologically and microbiological confirmation wherever possible is essential to monitor treatment progress. Worsening of symptoms or appearance of new symptoms is a matter of concern.

It is important to decide when the patient is not responding to treatment, it is important that we see that the patient is adhering to treatment before he is declared as failure. Sometimes we forget to do this. So, how do we understand non response to treatment? Dr. Syed how do we understand non response to treatment in case of extra-pulmonary TB?

We have to be extremely cautious in declaring failure to the treatment and we must remember the aspects of iris that is immune reconstitution inflammatory syndrome in these patients.

Dr. Bhavani what is your experience of iris?

Yes, iris or paradoxical reaction occurs within 3 months of treatment initiation where the patient has initial improvement followed by worsening of the lesions or symptoms or some patients develop new lesions or symptoms. I have come across this in the treat in the management of brain tuberculoma where we had a patient in where we started her on anti TB treatment, after two and half months of treatment she developed new seizures and then an repeat MRI showed new lesions in her brain.

We were thinking of some possible reasons like treatment failure, drug resistance and iris was also considered as the possible diagnosis. We continued her on treatment and the patient recovered well and her symptoms also regressed subsequently.

So, Dr. Syed what is your experience with iris?

This is particularly a common in the management of lymph node tuberculosis where you see increase in size of existing nodes or fresh nodes appearing during the initial phase of treatment. It is a matter of concern for both the treating physician as well as the patient; however, this must not be a point to decide on the treatment failure or to change the treatment regimen, one must continue the treatment so that this lymph nodes do resolve. In cases where the lymph nodes do not resolve and you will certainly need to reinvestigate and find out the cause of drug resistance or any other alternate diagnosis.

Identification and management of paradoxical reaction after the many challenges of managing extra-pulmonary tuberculosis, drug resistance and extrapulmonary TB if diagnosed has to be managed in a similar way in a as in pulmonary tuberculosis.

So, ladies and gentlemen from all these discussions we understood that there are several gaps in the knowledge about the management of extra-pulmonary tuberculosis and the search is warranted especially in the diagnosis, treatment and monitoring progress to treatment.

On this note we come to the end of this panel discussion on the practical difficulties in the management of extra-pulmonary tuberculosis. I thank all the experts for their valuable insights and sharing their experiences and they expect that this panel discussion will be very useful in the management of extra-pulmonary tuberculosis patients in your practice. Thank you, thank you.

Thank you.