Manage TB
National Institute for Research in Tuberculosis, Chennai

Lecture – 29
Approach to diagnosis of Pediatric Pulmonary Tuberculosis
Case Discussion

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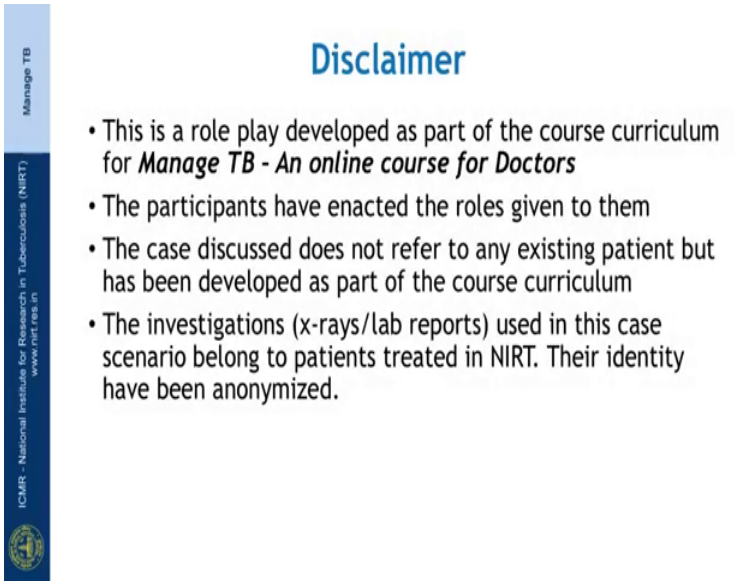

This is a role play developed as part of the course curriculum for Manage TB an online course for doctors the participant have enacted the roles given to them. The case discussed does not refer to any existing patient, but has been developed as part of the course curriculum.

The investigations such as X-rays and lab reports used in this case scenario belongs to patients treated at National Institute for Research in Tuberculosis Chennai; their identity have been anonymized.

Good morning Maa'm.

Yeah good morning doctor.

Maa'm I have a case to discuss.

Yes you can discuss it now.

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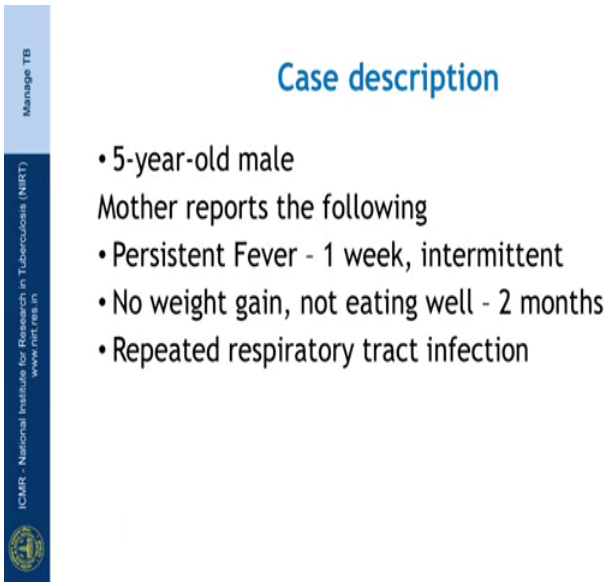

Maa'm, there is a child 5 years old child the mother reports are following maa'm; he is having persistent fever from 1 week which is intermittent in the nature; for the past 2 months he is not eating well and he is not gained any weight and he often has repeated respiratory tract infections.

Have you collected any more additional information?

Yes maa'm; the child without have any TB treatment in the past. There is no history of contact with TB patients either in the family or among the relatives; the child is immunized appropriately for his age. The child's HIV status is not known, but the mother is not reactive for HIV and the child has not received any blood transmission. I have done a thorough general and systematic examination; the child is fibrin, not dyspneic, the auscultation of hearts and lungs are normal and there is no organomegaly.

So, if we are considering a TB diagnosis in this child; so what are the additional investigations you will be doing in this child?

Maa'm if the child is able to produce sputum I will order for an expert sputum and if the child is not able to produce sputum, I will go for an induced sputum or order for an early morning gastric aspirate, which should be done on an empty stomach and this aspirate should be sent for expert. Suppose if the expert is not available then sputum smear for

AFB should be ordered and I heard that bacteriological diagnosis of TB in children is difficult. So, is it so maa'm?

Yes you are correct the bacteriological confirmation in children is difficult, because they do not produce sputum and also the sensitivity of the available test on the gastric aspirate is low.

Maa'm what about blood serology, will it help in the diagnosis of TB in children?

No serological test are not recommended for diagnosis in diagnosis of TB both the WHO and the Indian guidelines have emphasized that the commercially available serological test are not reliable and should not be used for the diagnosis of TB.

What are the test can I order for this child to diagnose TB maa'm?

So, you can do a chest X-ray in this child. So, a chest X-ray is a complementary diagnostic tool in the diagnosis of TB ; however, you like all the abnormalities in the chest X-ray are not suggestive of TB, but in children chest X-ray may be helpful in diagnosis.

Maa'm what about mantoux test? I had one of my friend doing mantoux for a child in a ward what about it maa'm?

The tuberculins can test it is commonly referred to as manto and you are aware that the positive mantos assistive of the TB infection and not TB disease.

maa'm.

However in the absence of bacteriological confirmation a positive manto test can help in diagnosis of TB in children.

Ok maa'm; and then what will be the confirmatory test for pulmonary TB in children?

The confirmatory test for pulmonary TB in children will be gastric aspirate or a sputum positivity of AFB and or a gene expert positivity.

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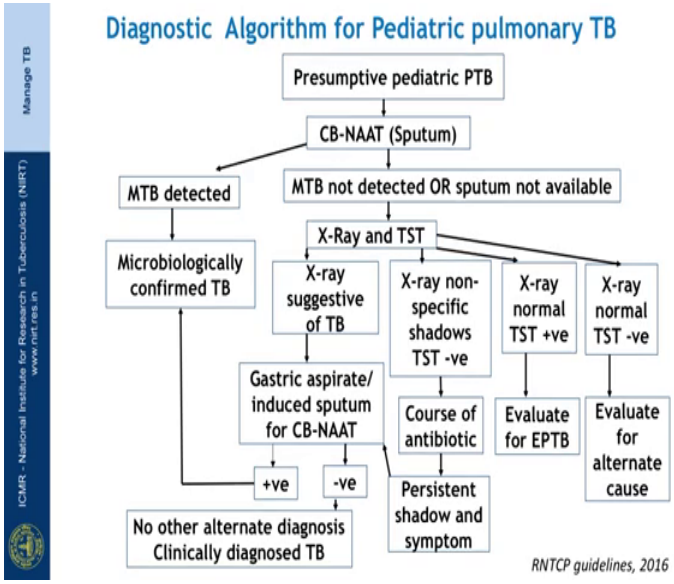

Maa'm how will I diagnose TB in case of absence of bacteriological confirmation?

So, in the absence of bacteriological confirmation you have to do a chest X-ray, a TST and also evaluate the child for any alternate diagnosis then you have to repeat the chest X-ray after a course of antibiotics.

Ok maa'm.

And if still the symptoms still the X-ray have got (Refer Time: 04:26) which is suggestive of clinically diagnosed TB.

Ok maa'm.

And the in the absence if the child does not have any bacteriological confirmation, the strong frustration of clinical in the features manto positivity can help in the diagnosis of TB in children.

Ok maa'm.

Can you summarize the key points in the diagnosis?

Yes maa'm, sure maa'm.

Of TB in children

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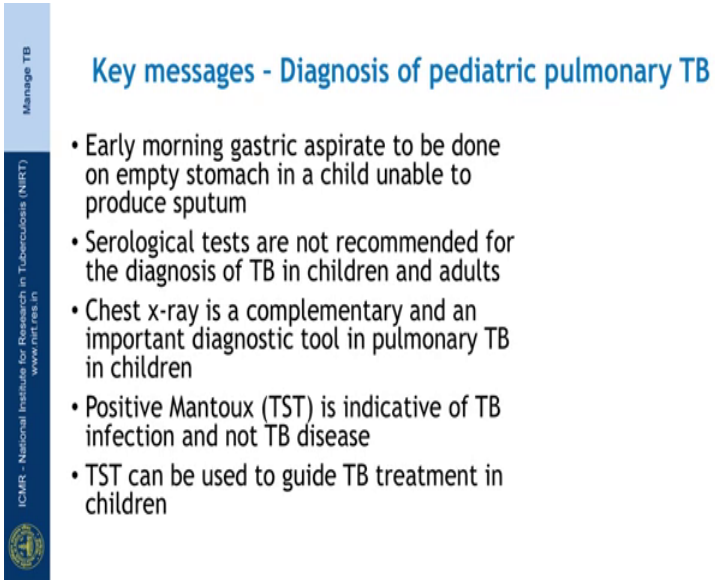

Early morning gastric aspirate to be done on empty stomach in a child unable to produce sputum, serological tests are not recommended for the diagnosis of TB in children and adults. Chest X-ray is a complementary and an important diagnostic tool in pulmonary TB in children, positive mantoux is indicative of TB infection and not TB disease, TST can be used to guide treatment in children.