Xpert MTB/RIF IN SMEAR-NEGATIVE BRONCHOALVEOLAR LAVAGE SAMPLES FROM A COLOMBIAN REFERRAL HOSPITAL

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Background

Few studies are available of performance of Xpert MTB/RIF assay on acid-fast bacilli (AFB) smear-negative bronchoalveolar lavage (BAL) in TB endemic region (1,2,3). Xpert MTB/RIF assay could be useful in tuberculosis (TB) diagnosis and also, in excluding the suspected patients with smear-negative BAL.

Methods

Retrospective cohort study. Samples from patients with pulmonary infiltrates who underwent bronchoscopy and who were BAL- smear-negative and with a culture result were included. Xpert was performed on a resuspended pellet of centrifuged BAL.

Results

Between August 2011 and July 2013, 767 samples were tested. From these, 28 (3.6 %) were Xpert positive. From those initial positive samples, culture was positive for MTB in 11 (39.3%). Of those who had negative cultures, all the Xpert detection was detected as low or very low. From those who had negative Xpert (739), only 5 had positive culture for MTB. With a prevalence of 2.1%, the overall sensitivity was 68.7%, specificity 97.7%, positive predictive value 39.3%, and negative predictive value 99.3%.

Xpert MTB/RIF performance

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<tr>
<th>Prevalence</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>PPV</th>
<th>NPV</th>
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<td>2.1 %</td>
<td>68.7 %</td>
<td>97.7 %</td>
<td>39.3 %</td>
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Conclusion

Our study found a low MTB prevalence infection (2%) in these smear negative BAL samples. The low positive predictive value can be explained because of these low prevalence, although Xpert MTB had a very high specificity and negative predictive value. A negative Xpert in a negative smear sample of BAL could rule out pulmonary TB.

References