

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

Nora Guarín, MD¹, MSc. Luisa Martínez, Microbiologist¹, José García, MD², Robinson Pacheco, MSc³, Andrés Castro⁴, Liliana Fernández, MD⁴, Fernando Rosso^{2,3}, MD, MSc³

¹Microbiology Laboratory, ²Infectious Diseases, ³Pulmonology, ⁴Clinical Research Center Fundación Valle del Lili, Cali, Colombia

Fernando Rosso, Fundación Valle del Lili, Av. Simón Bolívar. Carrera 98 No. 98-49, Santiago de Cali, Colombia. (572) 3319090 (7105)
Frosso07@gmail.com

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Background

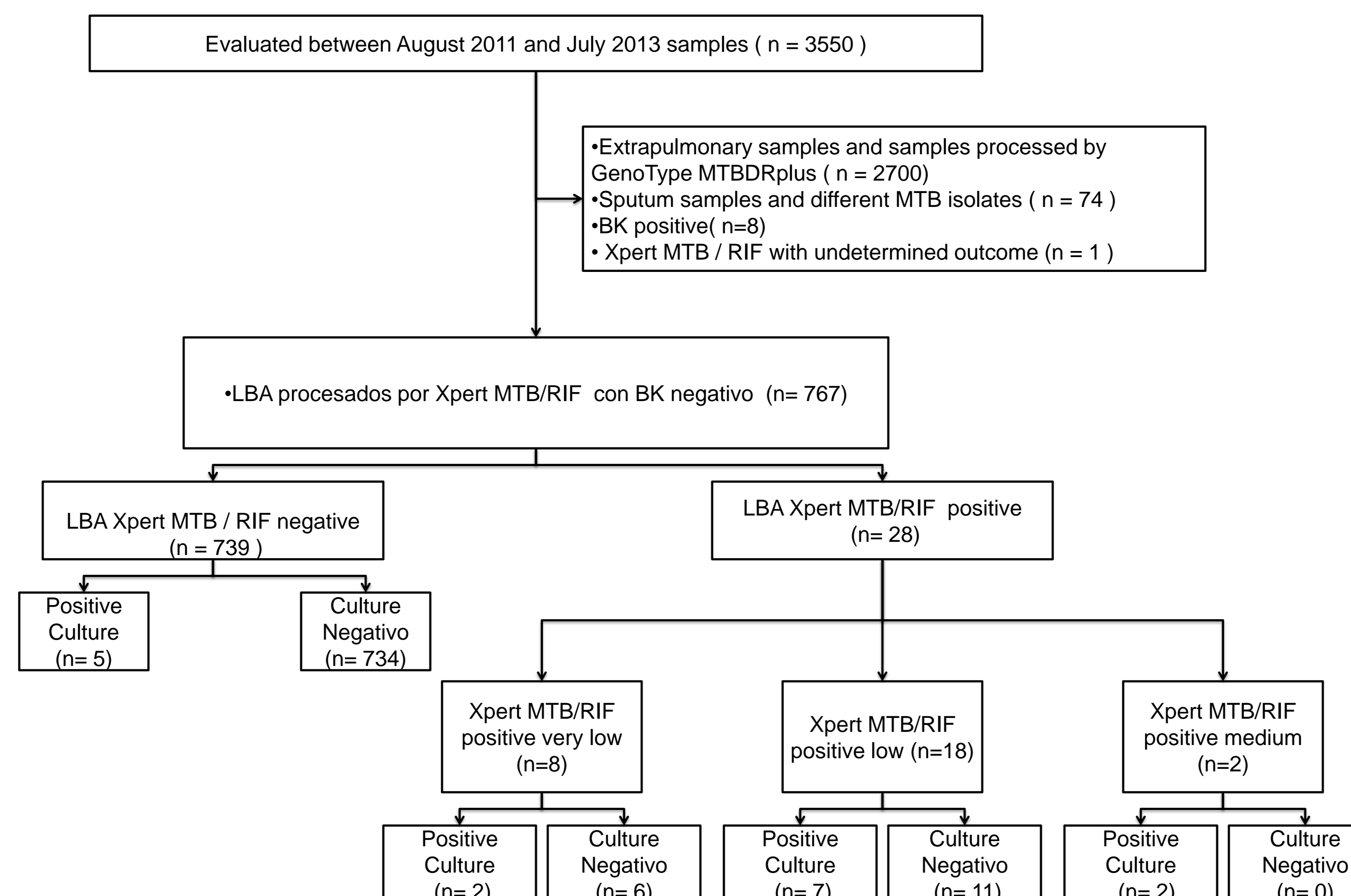
Few studies are available of performance of Xpert MTB/RIF assay on acid-fast bacilli (AFB) smear-negative bronchoalveolar lavage (BAL) in TB endemic region (1,2,3). Xpert MTB/RIF assay could be useful in tuberculosis (TB) diagnosis and also, in excluding the suspected patients with smear-negative

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 infection prevalence of 2,1% ,the overall sensitivity was 68,7%, specificity 97,7%, positive predictive value 39,3%, and negative predictive value 99,3%.



BAL	Culture		Total	
	Positive	Negative		
Xpert MTB/RIF	Very low	2	6	8
	Low	7	11	18
	Medium	2	0	2
	Total positive	11	17	28
	Total negative	5	734	739
Total	16	751	767	

Xpert MTB/RIF performance

Prevalence	Sensitivity	Specificity	PPV	NPV
2,1 %	68,7%	97,7%	39,3 %	99,3 %

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

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