

SUPPLEMENTARY MATERIAL

Performance of conventional laboratory tests and Xpert MTB/RIF in the diagnosis of tuberculosis

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Supplementary Table 1. Distribution of patients by age groups according to product category and the results obtained from the three tests.

Age	Category of sample	Microscopic examination			Culture			Xpert MTB/RIF		
		Positive	Negative	PR	Positive	Negative	PR	Detected	Undetected	PR
[0,20]	Respiratory	14	316	4.24%	30	300	9.09%	22	308	7.14%
	Non-respiratory	2	193	1.03%	9	186	4.62%	8	187	4.28%
(20,40]	Respiratory	53	306	14.76%	84	275	23.40%	91	268	33.96%
	Non-respiratory	1	20	4.76%	6	15	28.57%	5	16	31.25%
(40,60]	Respiratory	61	393	13.44%	100	354	22.03%	115	339	33.92%
	Non-respiratory	0	19	0%	2	17	10.53%	2	17	11.76%
(60,80]	Respiratory	25	325	7.14%	34	316	9.71%	39	311	12.54%
	Non-respiratory	0	22	0%	2	20	9.09%	1	21	4.76%
(80,100]	Respiratory	5	33	13.16%	5	33	13.16%	7	31	22.58%
	Non-respiratory	0	8	0%	1	7	12.5%	2	6	33.33%
Total		161	1635	8.96%	273	1523	15.2%	292	1504	16.25%

PR, positivity rate.

Supplementary Table 2. Performance of microscopic examination in relation to culture as the reference standard according to the type of sample.

	Microscopic examination	Culture		SE (%)	SP (%)	PPV (%)	NPV (%)	K	p	McNemar
		+	-							
All samples (n=1796)	+	152	9	55.68	99.41	94.41	92.60	0.6624	<0.001	<0.001
	-	121	1514							
Respiratory (n=1531)	+	149	9	58.89	99.30	94.30	92.43	0.6850	<0.001	<0.001
	-	104	1269							
Sputum (n=587)	+	92	6	69.70	98.68	93.88	91.82	0.7526	<0.001	<0.001
	-	40	449							
Induced sputum (n=834)	+	51	2	45.95	99.72	96.23	92.32	0.5864	<0.001	<0.001
	-	60	721							
Other respiratory samples (n=110)	+	6	1	60	99	85.71	96.12	0.6821	<0.001	0.3750
	-	4	99							
Non-respiratory (n=265)	+	3	0	15	100	100	93.51	0.2460	0.0001	<0.001
	-	17	245							
Gastric aspirate (n=173)	+	1	0	16.67	100	100	97.09	0.2786	<0.001	0.0625
	-	5	167							
Cerebrospinal fluid (n=37)	+	0	0	-	100	-	89.19	0.0000	-	0.1250
	-	4	33							
Biological fluids (n=44)	+	1	0	12.5	100	100	83.72	0.1895	0.0319	0.0156
	-	7	36							
Secretions (n=11)	+	1	0	50	100	10	90	0.6207	0.0261	0.3173
	-	1	9							

Supplementary Table 3. Performance of the Xpert MTB/RIF in relation to culture (reference standard) according to the type of sample.

	Xpert MTB/RIF	Culture		SE (%)	SP (%)	PPV (%)	NPV (%)	K	p	McNemar
		+	-							
All samples (n=1796)	+	245	47	89.74	96.91	83.90	98.14	0.8425	<0.001	0.0370
	-	28	1476							
Respiratory (n=1531)	+	229	45	90.51	96.48	83.58	98.09	0.8419	<0.001	0.0154
	-	24	1233							
Sputum (n=587)	+	123	25	93.18	94.51	83.11	97.95	0.8407	<0.001	0.0090
	-	9	430							
Induced sputum (n=834)	+	96	16	86.49	97.79	85.71	97.92	0.8395	<0.001	1.0000
	-	15	707							
Other respiratory samples (n=110)	+	10	4	100	96	71.43	100	0.8136	<0.001	0.1250
	-	0	96							
Non- respiratory (n=265)	+	16	2	80.00	99.18	88.89	98.38	0.8299	<0.001	0.6875
	-	4	243							
Gastric aspirate (n=173)	+	5	2	83.33	98.80	71.43	99.40	0.7603	<0.001	1.0000
	-	1	165							
Cerebrospinal fluid (n=37)	+	3	0	75	100	100	97.06	0.8426	<0.001	1.0000
	-	1	33							
Biological fluids (n=44)	+	6	0	75	100	100	94.74	0.8308	<0.001	0.5000
	-	2	36							
Secretions (n=11)	+	2	0	100	100	100	100	1.0000	<0.001	1.0000
	-	0	9							

Supplementary Table 4. Performance of the Xpert MTB/RIF in relation to the composite reference standard according to the type of sample.

	Xpert MTB/RIF	Composite reference standard		SE (%)	SP (%)	PPV (%)	NPV (%)	K	p	McNemar
		+	-							
All samples (n=1796)	+	151	141	99.34	91.42	51.71	99.93	0.6401	<0.001	<0.001
	-	1	1503							
Respiratory (n=1531)	+	148	126	99.33	90.88	54.01	99.92	0.6564	<0.001	<0.001
	-	1	1256							
Sputum (n=587)	+	92	56	100	88.69	62.16	100	0.7108	<0.001	<0.001
	-	0	439							
Induced sputum (n=834)	+	50	62	98.04	92.08	44.64	99.86	0.5780	<0.001	<0.001
	-	1	721							
Other pulmonary samples (n=110)	+	6	8	100	92.31	42.86	10	0.5669	<0.001	<0.001
	-	0	96							
Non- respiratory (n=265)	+	3	15	100	94.27	16.67	100	0.2716	<0.001	0.0001
	-	0	247							
Gastric aspirate (n=173)	+	1	6	100	96.51	14.29	100	0.2423	<0.001	0.0313
	-	0	166							
Cerebrospinal fluid (n=37)	+	0	3	-	91.89	0	100	0.0000	1.0000	0.2500
	-	0	34							
Biological fluids (n=44)	+	1	5	100	88.37	16.67	100	0.2568	0.0109	0.0625
	-	0	38							
Secretions (n=11)	+	1	1	100	90	50	100	0.6207	0.0261	0.3173
	-	0	9							