

Table 2 Variables influencing galactomannan ELISA testing

Related to the patient

Age

Underlying disease

Previous use of antimicrobial drugs, including antifungals

Auto-immunity

Dialysis

Related to the
Aspergillus infection

Aspergillus species

Disease severity

Related to the method

Sample volume

Cut-off

Storage of sampling

Frequency of testing

Laboratory experience

Table 3 Factors associated with a false-negative and false-positive results with galactomannan ELISA testing

False-negative	False-positive
Non-neutropenic patient	Use of antibiotics
Previous exposure to antifungal drugs	Pediatrics and neonates
Cut-off too high	Infections caused by <i>Penicillium</i> species
Inappropriate diagnostic criteria	Dialysis
Low frequency of testing	Auto-antibodies
Disease of low severity	Contaminated cotton swabs
Low volume of sampling	Bacteremia
Long term storage	Airway colonization with <i>Aspergillus</i>

Use of Bronchoalveolar Lavage To Detect Galactomannan for Diagnosis of Pulmonary Aspergillosis among Nonimmunocompromised Hosts

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- All six patients had a BAL GM level of >1.18 .
- The sensitivity, specificity, and negative predictive value (NPV) for a BAL GM level of >1.0 were 100%, 88.1%, and 100%, respectively.
- Notably, the positive predictive value (PPV) was only 42.9%, likely reflecting the low prevalence of pulmonary aspergillosis among nonimmunosuppressed patients.

TABLE 2. Performance of tests for diagnosing pulmonary aspergillosis

Test and cutoff	Sensitivity (%) (no. of positive samples/total no. of samples) (range)	Specificity (%) (no. of positive samples/total no. of samples) (range)	PPV (%) (no. of positive samples/total no. of samples) (range)	NPV (%) (no. of positive samples/total no. of samples) (range)
BAL GM				
≥0.5	100 (6/6) (54.1–100)	77.6 (52/67) (65.8–86.9)	28.6 (6/21) (11.3–52.2)	100 (52/52) (93.2–100)
≥1.0	100 (6/6) (54.1–100)	88.1 (59/67) (77.8–94.7)	42.9 (6/14) (17.1–71.1)	100 (59/59) (93.9–100)
≥1.5	66.7 (4/6) (22.3–95.7)	91 (61/67) (81.5–96.6)	40 (4/10) (12.2–73.8)	96.8 (61/63) (89.3–99.6)
≥2.0	66.7 (4/6) (22.3–95.7)	94 (63/67) (85.4–98.4)	50 (4/8) (15.7–84.3)	96.9 (63/65) (89.3–99.6)
≥2.5	50 (3/6) (11.8–88.2)	95.5 (64/67) (87.5–99.1)	50 (3/6) (11.8–88.2)	95.5 (64/67) (87.5–99.1)
Serum GM^a				
≥0.5	60 (3/5) (14.7–94.7)	91.7 (11/12) (61.5–99.8)	75 (3/4) (19.4–99.4)	84.6 (11/13) (54.6–98.1)
≥1.0	40 (2/5) (5.3–85.3)	91.7 (11/12) (61.5–99.8)	66.7 (2/3) (9.4–99.2)	78.6 (11/14) (49.2–95.4)
BAL culture	66.7 (4/6) (22.3–95.7)	94 (63/67) (85.4–98.4)	50 (4/8) (15.7–84.3)	96.9 (63/65) (89.3–99.6)
BAL microscopy ^b	80 (4/5) (28.4–99.5)	96.9 (63/65) (89.3–99.6)	66.7 (4/6) (22.3–95.7)	98.4 (63/64) (91.6–100)
BAL culture or microscopy	100 (6/6) (54.1–100)	92.5 (62/67) (83.4–97.5)	54.5 (6/11) (23.4–83.2)	100 (62/62) (94.2–100)

^a The serum GM test was performed for only 17 patients.

^b BAL microscopy was performed for only 70 patients.

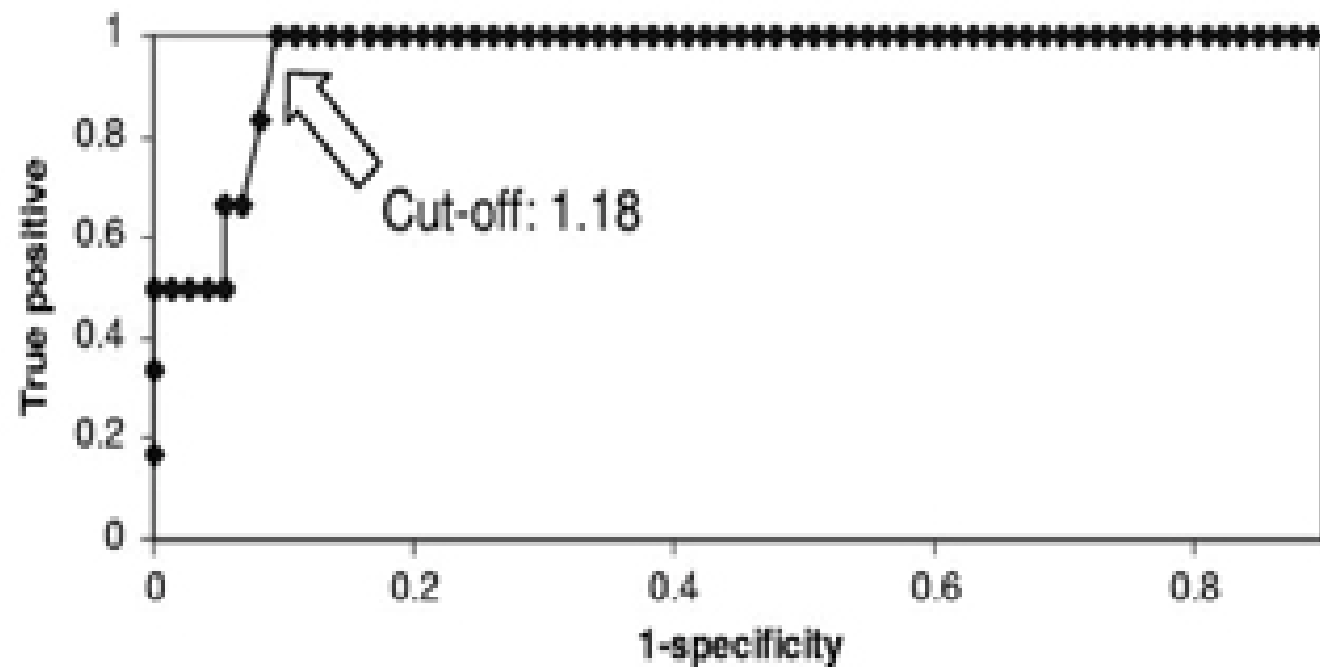


FIG. 1. ROC curve for BAL GM test results.