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Early View

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Factors limiting the utility of bronchoalveolar lavage in the diagnosis of Covid-19

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Title Page

Title: Factors limiting the utility of bronchoalveolar lavage in the diagnosis of Covid-19

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Take home message: Bronchoalveolar lavage has a specific place in the diagnosis of Covid-19. The clinical performance of BAL rRt-PCR is dynamic in nature and depends on different clinical and demographic factors.

Main Text

We read with interest study by Geri et al[1] in which the authors have demonstrated a strong agreement between negative nasopharyngeal (NPs)/nasal (Ns) swab and bronchoalveolar lavage (BAL) real-time reverse transcriptase-polymerase chain reaction (rRT-PCR) in the diagnosis of Covid-19 among hospitalized patients. The study findings contradicted earlier

report[2] and suggested a limited utility of BAL. However, the results need to be interpreted comprehensively before drawing any conclusion.

In the present study, BAL was negative for SARS-CoV-2 by rRT-PCR in majority of cases that included 38 patients (48%) with strong clinical and radiological suspicion for Covid-19. This finding implies either a high false negative rate of BAL rRT-PCR or an alternate diagnosis. Hence, authors should give a detail account of the final diagnoses and treatment outcomes of the patients and correlate these with the rRT-PCR results. This will give a better picture of the clinical performance of rRT-PCR in both BAL and upper respiratory samples.

Clinical test performance of rRT-PCR (in BAL/Ns/NPs) is a dynamic parameter that depends not only on its analytic sensitivity but also on the pretest probability. The pretest probability may in turn depend on the SARS-CoV-2 exposure history, disease symptoms and local disease prevalence.[3] The unexpected low positivity seen with BAL rRT-PCR in the study despite high pretest probability might be due to delayed time of sampling and/or disease stage. All these factors should have been considered while comparing the diagnostic yield in the study

Bronchoalveolar lavage has a specific place in the diagnostic algorithm of Covid-19 and is usually performed in a patient with lower respiratory tract involvement and high clinical suspicion but negative Ns/NPs result. However, negative BAL results should be interpreted comprehensively in light of different clinical and demographic factors on a case-to-case basis.

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