

Sputum cytology for lung cancer: Not just part of the past

Sir,

Ammanagi *et al.* raised an important but often neglected issue of sputum cytology.^[1] Several studies have shown the effectiveness of sputum cytology in diagnosis of lung cancer and its ability to avoid unnecessary invasive procedures. Still, it is an unpopular and underused modality. Two main factors behind its low popularity are its “too lengthy and slow” nature and lesser yield compared to bronchoscopy.

Although it is tempting to rush for the diagnosis, especially when such a lethal disease is suspected, a clinician is expected to have a logical and evidence-based approach. Mathematical models suggest that lung cancer becomes detectable after around 10–15 years of appearance of the first cancer cell. Thus, bypassing sputum cytology just to avoid four–five days’ wait is unlikely to improve the outcome. On the contrary, it may subject the patient to unnecessary invasive procedures, with their own morbidity.

Secondly, a few simple steps can improve sputum cytology results effectively. Merely giving the sputum submission instructions to the patient improves tuberculosis detection rate.^[2] A better sputum sample collected this way is expected to increase sputum cytology yield for lung cancer also. Patients should be instructed to collect sputum first thing in the morning in a sterile container after deep coughing. Patients should not eat, smoke or use toothpaste/mouthwash before collecting sputum. Rinsing the mouth with fresh water decreases contamination and improves productivity. Minimum one–two tsf sputum is required which may take even up to 20–30 minutes. Patients should be explained about the difference between saliva and sputum. Ideally, sputum should be immediately sent to the laboratory, but often the lab opens late. In such a scenario, the sample should be stored in a refrigerator. Each sample should be taken on a separate day, and at least five samples should be sent for optimum results.

Recent studies suggest that use of newer techniques like thin-prep cytopreparatory improves the yield of sputum cytology.^[3]

Similarly, a study has suggested better results of sputum induction as compared with spontaneous expectoration in diagnosis of smaller and peripheral lesions.^[4]

In a tuberculosis-prevalent country like India, where sending multiple sputum samples for AFB staining is routine in practice, it is easy to incorporate sputum cytology into the regular workup. Its low cost and easy availability outside of tertiary care institutes makes it even more practical in our resource-constrained settings. There is a need to encourage and promote sputum cytology for the diagnosis of lung cancer.

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