

Specimen collection from chest tubes: A novel method

Sir,

It is often required to collect specimen from chest tubes for estimation of fluid microbiology, biochemistry, and cytology. Prevalent guidelines^[1] on management of chest tubes have not specified a method to collect specimen from such drains. Neither is such a practical problem been described in articles on management of empyema.^[2,3] The specimen can be collected from the Intercostal Drain (ICD) bag/bottle, but then it is diluted and contaminated with the fluid already present for the underwater seal. Parameters where quantitative assessment is required cannot be measured accurately if this method is employed since the sterile fluid in the ICD bag will dilute the specimen. Using a needle to access drainage from tubing leaves a hole in the drain itself, which leaves a potential source of infection. Needleless sampling ports containing chest tubes are not widely available. We describe a novel method which is noninvasive, simple, safe, cheap, and sterile technique to collect such specimen. This technique employs the use of mucus traps.

Mucus traps are see through, sterile, collapse proof, plastic containers which come with a disposable adapter with two tube openings. The cost of such traps is a less than a third of commonly employed chest tubes. Following is the method for collection of specimen. The chest tube needs to be clamped momentarily and removed from the underwater seal. One of the tubings of mucus trap is connected to the tube connected to the chest tube and the other is attached to the underwater seal. An airtight fit should be ensured between both the connections. Pleural fluid gradually trickles in the trap which can be safely removed, again after clamping the tube. To protect the specimen from draining into the underwater seal, mucous trap should be stuck vertically to the drain apparatus as shown in [Figure 1]. Adequate length of tubing of disposable adapter prevents contamination from connecting nonsterile tubes. The time duration for collection will depend on the rate of drain of fluid. This method is especially important when the rate of drain is very minimal; in such cases the assembly can be left in place overnight. It is important to retain the separate screw cap of mucous trap which is required for transportation of specimen. Through this technique not only the integrity of underwater seal is maintained, but also a sterile and undiluted specimen is obtained. This method will increase the cost of specimen collection marginally, but is much cheaper than the

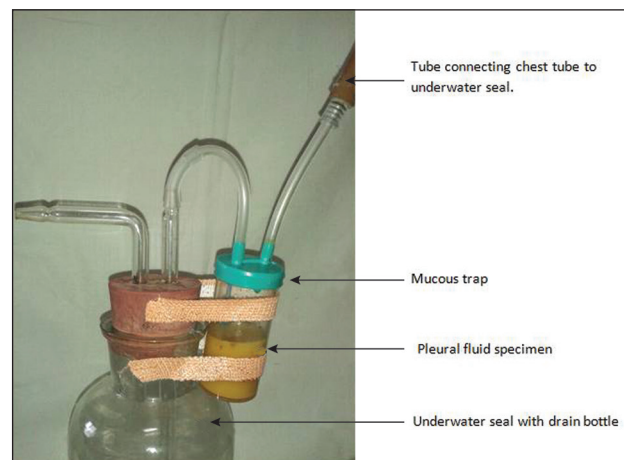


Figure 1: Assembly of chest tube, mucous trap, and underwater seal apparatus for collection of specimen

needleless collection assembly ports. Though not observed, but the only plausible complication of this technique can be aspiration of air into the pleural cavity if air tight attachments are not ensured.

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