



Letter to Editor

Sepsis detection at autopsy

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Quick Response Code:



Dear Editor,

Sepsis and septic shock are life-threatening entities and may be the cause of death in a person.^[1] Sepsis and septic shock have been objectively defined using measurable clinical parameters in the living. The word “sepsis” is restricted to antemortem. When a person dies of sepsis or septic shock, there are no criteria or definition available to ascertain or validate death due to sepsis or septic shock, even when an autopsy is conducted. When an autopsy is conducted on the deceased who dies due to sepsis, there are neither guidelines nor definitions that permit or validate the diagnosis of sepsis as the cause of death.

We propose that the opinion at autopsy of sepsis being the cause of death should be now possible based on a combination of factors: Case history from police or family, autopsy findings (e.g., presence of pus or abscesses), histopathological examination of organs, microbial culture of blood and tissue, and procalcitonin biomarker levels in blood.^[2,3] This is especially critical in medico-legal cases where determining both cause and manner of death is essential.

In natural deaths, identifying sepsis can provide valuable epidemiological data, including microbial prevalence, transmission, and antimicrobial resistance.

It is proposed that the criteria for postmortem diagnosis of sepsis include the following:

1. Documented history of antemortem correlation of infection/sepsis.
2. Presence of an abscess localized or widespread in one or more organs or spaces.
3. Procalcitonin levels in blood >10 ng/mL as point-of-care testing (POCT).
4. Consolidation of lungs grossly seen at autopsy which can be due to infection.
5. Histopathology of organs showing signs of sepsis such as,
 - Septicopyemic abscess in internal organs (pathognomonic of sepsis) at autopsy^[4]
 - Subepicardial hemorrhages is seen in sepsis^[4]
 - Subendocardial hemorrhages, fibrin deposition, contraction bands, edema, and interstitial myocarditis in heart
 - Increased weight of liver.^[4]
6. Presence of bacteria/fungus in blood and/or spleen on culture: Obtained as pure growth, associated with mortality in normal or immunocompromised status or associated with antimicrobial resistance (AMR) considering samples will be collected from at least two different sites within 24–48 h of death, ensuring strict sterile conditions during collection.^[4,5]

Points 1, 2, 3, and 4 may be obtained at or before autopsy, 5 and 6 (histopathology and culture) can be possible a few days after autopsy.

Thus, a center with good autopsy practices, microbiological culture facility, histopathology, and assessment of procalcitonin level can define the cause of death as sepsis.

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