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Diagnostic accuracy of rapid stain technique in touch imprint cytology of axillary sentinel lymph nodesE. E Harold¹, D. M..T. Chandramali¹, P. D. K. Thiranagama¹, K. Wijesinghe², C. S. P. Sosai¹¹Department of Histopathology, Colombo South Teaching Hospital, Kalubowila, Sri Lanka²Department of Surgery, Colombo South Teaching Hospital, Kalubowila, Sri Lanka

Introduction and objective: Touch imprint cytology (TIC) is a well-recognized technique in the intraoperative assessment of axillary sentinel lymph nodes (ASLN) for metastases. Rapid stain technique (RST) can reduce TIC turnaround time (TAT). The objective is to determine the diagnostic accuracy of rapid stain TIC.

Methodology: Data was retrieved and analysed from the departmental database. ASLN reports from January 2019 to November 2022 were reviewed. ASLN received for TIC was subjected to a validated RST, in which, the TIC smear was fixed and stained for one minute in 95% ethyl alcohol and haematoxylin. The same slides were also routinely fixed and stained with Papanicolaou stain (PAP). The remaining ASLN was fixed and routinely processed. Following both methods, the slides were assessed microscopically. The sample size was calculated by the recommended formula. Sensitivity, specificity, positive and negative predictive values were calculated using the Chi square test.

Results: For 55 ASLNs, the sensitivity, specificity, and positive and negative predictive values for RST was 100%, 90.9 %, 73.3%, and 100% in diagnosing metastasis. Sensitivity, specificity, positive and negative predictive value for routine PAP stain was 100 %, 95.5%, 84.6% and 100% in diagnosing metastasis. The false positive results were, 4 (7.3%) in RST and 2 (3.6%) in PAP stain.

Discussion and conclusion: The specificity is reduced in both methods due to the false positive results thus the diagnostic accuracy of RST is less compared to PAP stain. The histiocytes which mimicked malignant cells when in clusters and due to unstained cytoplasm gave the false positive results. Hence RST should be used together with routine stains to acquire satisfactory competence as RST will reduce TAT for intraoperative TIC.

Keywords: intraoperative cytology, rapid stain, sentinel lymph node, diagnostic accuracy

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