OC-108 DIAGNOSTIC ACCURACY OF BILIARY BRUSH CYTOLOGY

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Introduction Published sensitivities for biliary brush cytology range between 18% and 77%.[1 2] Cellular yield is frequently the limiting factor. This study aims to compare diagnostic accuracy of a new technique of tissue acquisition and cytological assessment against historical techniques employed at a single centre.

Methods Bile duct brushings performed at endoscopic retrograde cholangiopancreatography or percutaneous transhepatic cholangiography between January 2008 and October 2010 were included in this study. Cytological analysis was performed using two techniques. Technique A (new technique) involved presence of a dedicated cytotechnician during tissue acquisition, use of a long biliary brush cut directly into buffered methanol, preparation of slide using ThinPrep and final analysis by dedicated Consultant Cytopathologists. Technique B involved tissue acquisition using a standard brush, smeared directly onto a slide and transported to the laboratory for analysis. Cytological diagnosis was classified as either negative (including reactive), or malignant (suspicious for or definite cancer). Cytology results were compared with final diagnosis as determined by histopathologic diagnosis, clinical follow-up, or autopsy data.

Results During this period, 111 bile duct brushings were obtained. Four patients lacked a final diagnosis and were excluded from the study, leaving a final cohort of 107 patients. Technique A was employed in 48 cases (mean age: 72.6±10.1 years). Statistical analysis provided sensitivity of 73%, specificity of 91% and a positive predictive value of 96%. Technique B was used in 59 cases (mean age: 71.1±16.0 years). Statistical analysis provided sensitivity of 31%, specificity of 100% and a positive predictive value of 100%.

Conclusion The introduction of this new technique of tissue acquisition and cytological assessment during biliary brushings has dramatically increased sensitivity from 31% to 73%, improving cancer detection rates.

Competing interests None.

Keywords biliary tract, cancer, cytology, diagnostic yield, ERCP, ptc.

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