

CYTOKERATIN-20 EXPRESSION IN BILIARY ATRESIA: A POSSIBLE PROGNOSTIC MARKER

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Aim of Study: Cytokeratins (CK) are considered epithelial markers and 20 different types have been described. CK20 expression has been considered a specific gastro-intestinal marker, though its expression has also been observed in the bile ducts in the late fetal stage of development and might act as a marker of "maturity". Our aim was to investigate the pattern of expression of CK20 at the porta hepatis to evaluate its possible use as a developmental marker of the biliary tree or as a marker of prognosis.

Methods: Extrahepatic bile duct remnants obtained at the time of Kasai portoenterostomy (KPE) were immunostained with anti-CK20 (Leica Biosystems UK). CK20 expression was assessed semiquantitatively in tubulo-glandular structures at the porta hepatis. Outcome was defined by clearance of jaundice to $<20 \mu\text{mol/L}$ and using Kaplan-Meier native liver survival curves. Data were quoted as median (range). Non-parametric statistical comparisons were made as appropriate. $P < 0.05$ was considered significant.

Results: 58 non-consecutive infants underwent KPE (2008-15). Median age at surgery was 53 (16-120) days. BA could be further defined as isolated BA ($n = 35, 60\%$); Cystic BA ($n = 9, 15\%$); CMV-IgM+ve associated BA ($n = 7, 12\%$) and BASM ($n = 7, 12\%$).

CK-20 expression was positive in 48 (83%), negative in 10 (17%). There was no difference in median age at surgery ($P = 0.69$) or in distribution across the variants ($P = 0.45$). Clearance of jaundice was seen in 27/48 (56%) vs. 8/10 (80%) ($P = 0.28$) children. Fig. 1 illustrates the native liver survival ($P = 0.21$).

Conclusions: This is the first study analysing CK20 expression in the porta hepatis of infants with BA though it did not discriminate between clinical variants with different developmental (e.g. BASM) or viral (e.g. CMV-IgM+ve BA) origins. Absence of CK-20 expression might be a possible marker of a good prognosis.

