Liver biopsy evaluation in chronic hepatitis b infection: 'Back to basics' - re-visiting semi-quantitative scoring systems

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Liver biopsy evaluation in chronic hepatitis b infection: 'Back to basics' - re-visiting semi-quantitative scoring systems

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Abstract

Context: Despite advances in understanding into the pathophysiology of chronic hepatitis B, liver biopsy evaluation on H&E stained sections has stood the test of time. There is therefore, a need to re-visit the most commonly used scoring systems with an aim to look for an ideal semi-quantitative system which is objective, simple to apply and versatile enough to incorporate newer advances.

Aims: To compare various semi-quantitative scoring systems with a view to (a) look for consistency in reporting, (b) assess usefulness in follow-up and (c) recommend a scoring system that is practical and easy to apply.

Settings and Design: Chronic hepatitis B was defined as HBsAg positive status for at least six months. All liver biopsies were evaluated using semi-quantitative scoring systems viz the Knodell, Ishak's modified HAI and Scheuer systems.

Materials and Methods: Baseline biopsies were assessed for intra- and inter-observer variation in order to find the system best suited for routine use. The observer variation was also calculated separately for portal, peri-portal and lobular inflammation as well as for fibrosis.

Statistical Analysis used: A Kappa analysis up to 95% confidence interval was done to look for statistical significance of interand intra-observer agreement between the three scoring systems.

Results: On multivariate Kappa analysis, it was found that both inter- and intra-observer agreement were comparable in the Knodell and Ishak systems, and was significantly better with the Scheuer system. Further, agreement was better with fibrosis than with necro-inflammatory scores.

Conclusions: The authors recommend Ishak's modified system as it conveyed the most relevant and exhaustive information.

Keywords: Chronic hepatitis B, Ishak's system, Knodell's system, Liver biopsy, Scheuer system, Semi-quantitative scoring systems.

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Epidemiology of HBsAg carriers in India. A holistic approach to control of hepatitis-B reservoir