Histological grade (Required)

Reason/Evidentiary Support

Hepatocellular carcinoma

Tumour grade is also related to prognosis.[1-5] Grading has conventionally been divided into four categories based on architectural and nuclear features according to the 1954 classification of Edmondson and Steiner.[6] This classification is also quoted in standard reference texts.[7] A recent consensus document advocated a three-point grading system (well, moderately or poorly differentiated), with only the worst grade recorded in the final report. This is supported by the prognostic significance being in the separation of well- and poorly differentiated neoplasms.[5] Grade 1 and 2 HCC of Edmondson and Steiner are combined as well-differentiated HCC in the three-point grading system. For practical purposes, well-differentiated HCCs are those where the tumour cells closely resemble hepatocytes such that the differential diagnosis is with dysplastic nodule (in cirrhosis) or adenoma (in non-cirrhotic livers). Poorly differentiated HCC are those where the hepatocellular nature of the tumour is not evident from the morphology.

In a systematic review of studies investigating outcomes following liver transplantation or surgical resection for HCC, fifteen specifically mentioned the prognostic role of grading: in 8 studies grading was statistically related to prognosis both by univariate as well as at multivariate analysis. In 4 studies it was statistically related to prognosis at univariate but not at multivariate analysis, whilst in the remaining 3 studies grading was not statistically related to prognosis.

However most studies only refer to grading being assessed according to Edmondson and Steiner criteria but several mention G1 G2 G3 whereas others mention G1 G2 G3 G4. Almost all of them condense
G1 and G2 as “Low Grade” and G3 and G4 as “High Grade” (studies where only G1 G2 G3 are mentioned always considered G3 as “High Grade”). A single study addressed inter-observer variation and the performance of pathologists was poor when applying G1 G2 G3 G4 and better
when comparing only Low versus High Grade. We recommend use of the three point scale (G1, G2, G3).

Cholangiocarcinoma

Definitive criteria for histological grading of cholangiocarcinomas have not been established; however, the following quantitative grading system based on the proportion of gland formation within the tumour is commonly used for intrahepatic cholangiocarcinomas:

- Grade cannot be assessed
- Well differentiated (more than 95% of tumour composed of glands)
- Moderately differentiated (50% to 95% of tumour composed of glands)
- Poorly differentiated (5% to 49% of tumour composed of glands).

It is recognized however that there are biological differences between perihilar and intrahepatic cholangiocarcinomas and it is recommended that perihilar CC should be considered as per pancreatic /large bile duct adenocarcinomas with respect to classifying differentiation where grading is governed by the least well differentiated component rather than by assessment of the proportion of tumour composed of glandular elements.

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