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Basic Surgical Pathology of Perihilar Cholangiocarcinoma: Bridging Knowledge for Surgical Practice

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Abstract
Perihilar cholangiocarcinoma (PCC) is a devastating disease with poor prognosis. Surgical resection remains a first-line therapy in patients with PCC, and the primary goal is to gain a tumor-free surgical margin. However, surgical margins are sometimes involved after curative intent surgery even now, which is plausibly explained by the fact that there is a potential gap between the extent of radiologic tumor staging and that of histologic cancer invasion. It is known that cancer cells of cholangiocarcinoma invade the surrounding area beyond the gross tumor border. The length is limited within 1 cm for invasive cancer and 2 cm for carcinoma in situ (CIS) in most cases of cholangiocarcinoma. Although this finding guides the ductal margin length, it is often difficult to obtain a satisfactory length, especially in the proximal direction for PCC. Therefore, pathological assessment with frozen sections of the ductal stump is widely used to confirm the ductal margin status. A positive ductal margin with CIS, unlike one with invasive cancer, is a mild prognostic factor, so it works negatively only in patients with an early-staged tumor who are expecting a prolonged survival. The present review article provides an overview on the growing knowledge about the surgical pathology of cholangiocarcinoma.
Key words: cholangiocarcinoma, perihilar cholangiocarcinoma, surgical pathology, and surgical margin