Early Detection of Aberrant Right Hepatic Duct-Cystic Duct Anatomy to Avoid Bile Duct Injury

Duff WM

Department of Surgery, Surgeon emeritus, Lake Regional Hospital, Osage Beach, Missouri, USA

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1. Abstract

Cholecystocholangiography may aid in the early detection of right hepatic duct variants. When this technique is combined with cystic duct marking the surgeon should be safely oriented regarding bile duct anatomy.

2. Short Communication

The insertion of an accessory right hepatic duct into the cystic duct occurs in 1-4% of cases studied [1]. A cholangiogram performed through the gallbladder (cholecystocholangiogram) demonstrates this variant early in the case and safely guides the surgeon’s dissection (Figures 1 and 2). This technique of cholangiography uses a percutaneous 18-gauge spinal needle to access the gallbladder [1]. This variant is responsible for many instances of bile duct injury referred to tertiary care centers [2].

Figure 1: Aberrant R hepatic duct inserting into cystic duct. Note the two marking clips. [1] Permission granted by Elsevier Publishing.
3. The Origin of the Cystic Duct Marking Technique

The electrophysiology of the opossum’s biliary smooth muscle demonstrated the duct system to be very active and has peristalsis. The extracellular electrodes were placed along the bile duct to demonstrate the wave of depolarization. The electrode array was similar to the marking clips placed along the cystic duct in the cystic duct marking technique [1] see (Figure 3).

References
