Exclusion of common bile duct stones prior to gallstone operations

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In the era of laparoscopic surgery, intra-operative X-ray investigation of bile ducts to identify coexisting common bile duct stones has been replaced by new techniques, which, unfortunately, are either too expensive and not available to all patients, or invasive and may result in severe complications. A study recently reported in the Nov. 21 issue of the *World Journal of Gastroenterology* may offer a simple and available measure to solve this problem worldwide.

CBDS occur in 7-20% of all patients undergoing a gallstone operation and may complicate the course of surgery. Although intraoperative x-ray investigation was routinely performed to diagnose CBDS in the pre-laparoscopic era, its use during the laparoscopic era has been debated. Consequently, other techniques for diagnosing CBDS have been introduced.

For example, preoperative liver function test (LFT; s-bilirubin and s-ALP) results, if abnormal, might be diagnostic for CBDS. However, some patients might have normal LFT despite coexisting CBDS. Ultrasonography is the major diagnostic modality used to diagnose gallstones, but is less helpful for diagnosing CBDS. Computed tomography is rarely useful for diagnosing gallstones.

Magnetic-resonance-cholangio-pancreatography (MRCP) has high specificity and sensitivity, with accuracy similar to that of ERCP (Endoscopic-Retrograde-Cholangio-Pancreatography), but its accuracy depends on the size and anatomical location of a gallstone. In addition,

MRCP is not widely available, and unlike ERCP, does not allow the endoscopic extraction of stones. ERCP is the most common technique used for both the diagnosis and treatment of CBDS. It is, however, expensive, invasive, technically demanding and associated with small but significant morbidity.

In this article, 200 consecutive patients with symptomatic gallstones disease operated on by laparoscopic cholecystectomy were retrospectively included and followed up 2-24 months after surgery. Three simple and routinely performed diagnostic variables, i.e., clinical history of patient (history of jaundice, pancreatitis or cholangitits), abnormal LFT results and/or dilated common bile duct (either alone or in combination), for diagnosing/excluding CBDS were evaluated. The results were statistically analyzed by calculating the sensitivity, specificity, negative predictive value (NPV) and positive predictive value (PPV) of each with special attention given to NPV, which is the proportion of patients with negative test results who are correctly diagnosed. Higher NPV indicates higher sensitivity for excluding CBDS.

Twenty five patients were found to have CBDS (12.5%). As a single diagnostic test, ultrasonography showed higher sensitivity, specificity, and negative/positive predictive values than both medical history and LFT. As a triple diagnostic modality, the combination of medical history, ultrasonographic findings, and LFT results was shown to be the best diagnostic modality to exclude CBDS (NPV of 97. 3 %).

The authors concluded that using a combination of three routinely used diagnostic components as a triple diagnostic modality can increase the diagnostic accuracy of CBDS. This test is recommended for excluding CBDS and to identify patients in need of other investigations, such as MRCP or ERCP. The availability and non-invasiveness of this triple diagnostic test are additional benefits.

Source: World Journal of Gastroenterology