Selective Versus Routine Histopathological Examination of Gallbladders in Low-Risk Patients - A Literature Review

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Abstract:

Gallbladder diseases are common surgical conditions that often necessitate a cholecystectomy. Traditionally, gallbladder specimens are sent for routine histopathological examination to detect incidental gallbladder carcinoma (IGBC). However, the need for this in low-risk patients remains a subject of debate, particularly considering the low incidence of IGBC and the strain on pathology services. This review aimed to compare selective versus routine histopathological examination of gallbladder specimens in low-risk patients undergoing cholecystectomy. This review complies with the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) guidelines. A comprehensive search was conducted for studies between 2000 and 2022 across PubMed, Scopus, Embase, Web of Science, Cochrane Library, and ScienceDirect. Included studies involved patients with low preoperative suspicion of malignancy who were later diagnosed with gall bladder cancer via either routine or selective histopathological examination.

Sixteen studies met the inclusion criteria. Studies supporting selective histopathology reported that all cases of IGBC were suspected either preoperatively on imaging or intraoperatively based on macroscopic features. In contrast, studies advocating routine histology identified significant numbers of IGBC in patients with no intraoperative suspicion, including some with advanced-stage disease. These findings suggest that while selective examination may be safe in low-incidence regions with experienced surgical assessment, routine histology remains a more sensitive method in other areas. Selective histopathological examination of gall bladder specimens may be considered in carefully selected low-risk patients, provided a thorough intraoperative evaluation is performed.

However, routine examinations remain important in regions with higher disease prevalence.