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ANATOMICAL VARIATIONS OF THE GALLBLADDER
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Relevance. Anatomical variations of the gallbladder represent a significant clinical challenge in hepatobiliary surgery and radiology due to their potential to complicate laparoscopic cholecystectomy, cause bile duct injury, and lead to diagnostic misinterpretation. Recent literature from 2020–2026 documents diverse morphological anomalies including shape, position, and number variations, yet standardized classification and preoperative recognition remain insufficient. Understanding these variations through systematic review is essential for improving surgical outcomes and anatomical education.

Aim: to systematically review anatomical variations of the gallbladder, their classification systems, imaging characteristics, and clinical significance in modern hepatobiliary practice.

Materials and methods. A narrative review of peer-reviewed scientific literature published between 2020 and 2026 was conducted using PubMed, PMC, and recent book chapters. Publications in English and Russian containing data on gross anatomy, embryology, morphological classification, imaging diagnosis, or surgical implications were included, with preference given to systematic reviews and MRI/MRCP studies.

Results and their discussion. Analysis identified primary gallbladder variations by shape (Phrygian cap, sigmoid, septated), number (duplication, bilobed), position (left-sided, intrahepatic, ectopic), and associated biliary anomalies frequently coexisting with cystic duct variations. MRCP studies demonstrate anatomical variants in approximately 50% of cases, emphasizing the need for preoperative imaging. Classification systems (Boyden, Harlaftis) provide structured recognition essential for surgical planning, while embryological origins from pars cystica explain morphological diversity.

Conclusions. Anatomical variations of the gallbladder require systematic recognition through established classifications and advanced imaging for optimal surgical outcomes. Preoperative MRCP assessment combined with anatomical awareness significantly reduces operative complications. Continued research into variant frequency and clinical correlations remains essential for hepatobiliary practice.