Supplementary

Table S1 Studies of reports about artificial intelligence for US-based detection of gallbladder diseases

Study	Publication year	Patient population	Diagnosis	Diagnostic ability
Obaid et al. (2)	2023	1,782	Nine diseases of gallbladder	The best model was the MobileNet model, accuracy 98.35%
Wang et al. (7)	2023	640	Risk stratification of gallbladder masses	Discriminating neoplastic from non-neoplastic gallbladder lesions: AUC 0.822–0.853[a]; discriminating carcinomas from benign gallbladder lesions: AUC 0.904–0.979[b]
Li et al. (38)	2023	759	Neoplastic risk in patients with gallbladder polyps larger than 10 mm	Accuracy 82.35%
Yuan et al. (41)	2020	96	Gallbladder polyps (cholesterol polyps and gallbladder tubular adenomas)	Accuracy 0.875, sensitivity 0.885, specificity 0.857, AUC 0.898
Jeong et al. (46)	2020	535	Gallbladder polyps (neoplastic and non-neoplastic gallbladder polyps)	AUC 0.92. With the DL-DSS assistant, the AUCs, specificity and ICC all improved for three reviewers
Kim et al. (47)	2021	501	Differentiate true gallbladder polyps	Accuracy 0.8761, specificity 0.8835, AUC 0.9082
Choi et al. (48)	2023	263	Gallbladder polyps (neoplastic and non-neoplastic gallbladder polyps)	Efficacy 0.944, accuracy 0.858, sensitivity 0.856, specificity 0.861
Li et al. (49)	2023	1,296	Gallbladder polyps in a long diameter of 8–15 mm	AUC 75.13%, accuracy 80.47%
Yuan et al. (50)	2023	100	Gallbladder neoplastic polyps and cholesterol polyps	Mean ± SD: AUC 0.850±0.090, accuracy 0.828±0.097, sensitivity 0.892±0.144, specificity 0.803±0.149, Youden's index 0.695±0.157
Chen et al. (51)	2020	224	Gallbladder polyps (neoplastic and non-neoplastic gallbladder polyps)	Accuracy 87.54%, sensitivity 86.52%, specificity 89.40%
Gupta et al. (56)	2023	565	Gallbladder lesions (automatic detection of gallbladder cancer)	Sensitivity 92.3%, specificity 74.4%, AUC 0.887
Basu et al. (59)	2023	218	Gallbladder cancer	Mean ± SD: accuracy 0.921±0.062, specificity 0.961±0.049, sensitivity 0.923±0.062, AUC 0.971±0.028
Basu et al. (60)	2022	218	Gallbladder cancer	Accuracy 91.0%, specificity 95.0%, sensitivity 97.6%
Xue et al. (61)	2021	300	Gallbladder stones complicated with gallbladder carcinoma	Increased the IoU by 7.3%, the precision by 8.2%, and the recall rate by 11.1%
Lian et al. (63)	2017	60	Gallbladder and gallstone regions segmentation	For the gallbladder and gallstones respectively, overlap fraction and overlap value 86.01% and 79.81%, position error 1.7675 and 0.5414 mm, runtime 4.2211 and 0.6603 s
Zhou et al. (64)	2021	1,100	Biliary atresia and non- biliary atresia	Sensitivity 93.1%, specificity 93.9%, AUC 0.956

[a], the researchers used Validation set, Test set A and Test set B to obtain the average AUC values of 0.837, 0.822 and 0.853, respectively, so the AUC was expressed as 0.822–0.853 in the original study. [b], the researchers used Validation set, Test set A and Test set B to obtain the average AUC values of 0.904,0.909 and 0.979 respectively, so the AUC was expressed as 0.904–0.979 in the original study. US, ultrasound; AUC, area under the curve; DL-DSS, deep learning-based decision support system; ICC, interclass correlation coefficient; IoU, the intersection of union; SD, standard deviation.