

**Table S1** The TIFB diagnostic accuracy in biliary tract invasion on preoperative imaging

Biliary tract invasion on preoperative imaging	Consistent with the final diagnosis*		Total
	Consistent	Inconsistent	
Suspicious	33	2	35
No suspicious	4	4	8
Total	37	6	43

Continuity-adjusted chi-square test:  $P=0.007$ . \*Consistent with the final diagnosis was referred to whether the biopsy diagnosis of TIFB is consistent with the final diagnosis.

**Table S2** The TIFB diagnostic accuracy in bile duct obstruction site

Bile duct obstruction site	Consistent with the final diagnosis*		Total
	Consistent	Inconsistency	
Proximal bile duct tree	28	3	31
Distal bile duct tree	9	3	12
Total	37	6	43

Continuity-adjusted chi-square test:  $P=0.418$ . \*Consistent with the final diagnosis was referred to whether the biopsy diagnosis of TIFB is consistent with the final diagnosis.

**Table S3** The TIFB diagnostic accuracy in length of obstructed segment

Length of obstructed segment	Consistent with the final diagnosis*		Total
	Consistent	Inconsistency	
$\geq 3.00$ cm	22	2	24
$< 3.00$ cm	15	4	19
Total	37	6	43

Continuity-adjusted chi-square test:  $P=0.452$ . \*Consistent with the final diagnosis was referred to whether the biopsy diagnosis of TIFB is consistent with the final diagnosis.

**Table S4** The TIFB diagnostic accuracy in origin of the lesion

Origin of the lesion	Consistent with the final diagnosis*		Total
	Consistency	Inconsistency	
Intra-biliary origin	23	1	24
Extra-biliary origin	5	5	10
Benign origin	9	0	9
Total	37	6	43

Fisher's precision probability test:  $P=0.003$ . \*Consistent with the final diagnosis was referred to whether the biopsy diagnosis of TIFB is consistent with the final diagnosis.