Investigations

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In a jaundiced patient, the usual blood tests and ultrasound scan should be performed. Ultrasonography will determine if the bile duct is dilated. If it is, and there is a genuine suspicion Ludwig Courvoisier , 1843–1918, surgeon, Basel, Switzerland, was one of the first surgeons to remove stones from the common bile duct. a contrast-enhanced CT scan (Figure 72.8). In the majority of instances, this should establish if there is a tumour in the it is resectable. The presence of hepatic or pancr eas and if peritoneal metastases, lymph node metastases distant from the pancreatic head or encasement of the superior mesenteric, hepatic or coeliac artery by tumour are clear contraindications to surgical resection. Tumour size, continuous invasion of the duodenum, stomach or colon and lymph node metastases within the operative field are not contraindications. If the tumour abuts or minimally invades the portal or superior mesenteric vein, this is not a contraindication to surgery (as part of the vein can be resected if necessary); however, complete encasement and occlusion of the vein and any degree of arterial involvement remain contraindications to surgical resection. MRI and magnetic resonance angiography can provide information comparable to CT . ERCP and biliary stenting should be carried out if there is any suggestion of cholangitis, if there is diagnostic doubt or if there is likely to be a delay between diagnosis and surgery in a deeply jaundiced patient with distressing pruritus . It relieves the jaundice and can also provide a brush cytology or biopsy specimen to confirm the diagnosis (Figures 72.13, 72.14 and 72.19). Otherwise, preoperative ERCP and biliary stenting is not routine in patients with resectable disease as it is associ - ated with a higher incidence of infective complications after surgery . The prothrombin time should be checked, and clotting abnormalities should be corrected with vitamin K or fresh- frozen plasma prior to ERCP . If a stent is placed in a pa tient who may undergo resection, it should be a plastic stent or a cov - er ed metal stent, as these can be easily removed during surgery . EUS is useful if CT fails to demonstrate a tumour, if tissue diagnosis is required prior to surgery (e.g. a mass has devel - oped on a background of chronic pancreatitis and a distinc - tion needs to be made between inflammation and neoplasia), if vascular invasion needs to be confirmed or if separating cys - tic tumours from pseudocysts (Figure 72.33 ; see also Figure 72.20). T ransduodenal or transgastric FNA or Trucut biopsy performed under endoscopic ultrasound guidance avoids spill - age of tumour cells into the peritoneal cavity . Percutaneous transperitoneal biopsy of potentially resectab le pancreatic - tumours should be avoided as far as possible. Histological con - firmation of malignancy is desirable but not essential, particu - lar ly if the imaging clearly demonstrates a resectable tumour. The lack of a tissue diagnosis should not delay appropriate sur - gical therapy . In patients judged to have unresectable disease, tissue diagnosis should be obtained prior to starting palliative therapy . A CT scan of the chest and a fluorodeoxyglucose– positron emission tomography (FDG-PET) scan are routinely used to complete the staging. Diagnostic laparoscopy prior to an attempt at resection can spare a proportion of patients an unnecessary laparot - omy by identifying small peritoneal and liver metastases . It can be combined with laparoscopic ultrasonography . The tumour marker carbohydrate antigen 19-9 (CA19-9) is not highly specific or sensitive, but a baseline level should

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identifying recurrence.

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