1 PET/CT INFLUENCE ON CLINICAL MANAGEMENT OF PATIENTS WITH PANCREATIC NEOPLASMS

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INTRODUCTION AND AIM: Differential diagnosis of pancreatic masses remains difficult aside the introduction of several technologies. Positron emission tomography (PET) has an emerging role in the diagnosis and staging of different neoplasms, including pancreatic neoplasms. However, an exact anatomic delineation of PET findings is often difficult. The integrated PET/CT scanner provides the advantage of image fusion in the same examination, improving the anatomic delineation of PET. The aim of this study was to assess the impact of PET/CT on the management of patients with suspected pancreatic tumors. PATIENTS AND METHODS: From January 2004 to November 2004, 75 patients underwent PET/CT examination for diagnosis and staging of suspected pancreatic neoplasm (n = 53) or during the follow-up after resection for pancreatic cancer (n = 22). All patients also underwent serum CA 19-9 assay and abdominal ultrasonography. PET/CT examinations were conducted according to standardized protocol following an injection of 350–450 MBq FDG. All PET/CT findings were confirmed by operation, biopsy or follow-up. RESULTS: There were 31 males and 44 females with a mean age of 61.1 years (range 37–80). In the group of patients with suspected pancreatic tumor, the lesions were located in the pancreatic head in 33, in the body in 10 and in the tail in 10 patients; in 19 cases there was a cystic lesion. In the final diagnosis, 25 patients had malignant tumors (24 adenocarcinomas and 1 lymphoma of the pancreas) and 28 a benign disease (12 serous cystadenomas, 8 chronic pancreatitis, 6 intraductal mucinous tumors, 2 undefined). Of the 26 PET-positive pancreatic lesions, 25 were malignant (positive predictive value 96%) and none of the patients with PET-negative lesions had cancer (negative predictive value of 100%). In 10 patients PET/CT showed distant metastases not seen by conventional examinations in 6 patients. Moreover PET/CT correctly identified as malignant 6 lesions with inconclusive findings on traditional imaging. Two patients required additional colic resection for simultaneous colon cancer not seen by conventional staging. Of the 22 patients studied in the follow-up after resection of primary tumor, recurrent disease occurred in 8 of whom 4 were PET/CT positive (positive predictive value 87%). Three patients were judged as probably resectable. Among them, 19 patients (hilar cholangiocarcinoma 11, gallbladder cancer 4, intrahepatic bile duct cancer 4) in whom biliary drainage had not been performed at the time of MDCT were enrolled in this study. RESULTS: Of 19 probably resectable tumors, 18 were in fact resectable at surgery. The operative procedures planned based on the MDCT findings were performed in 17 of 18 resected cases (94% of the resected cases). Curative resection with microscopic negative surgical margins was done in 15 of 18 resected cases (83%). The cause of noncurative resection in three cases was positive surgical margin by mucosal carcinoma and planning operative procedures in patients with hilar biliary malignancies.

2 PROSPECTIVE APPRAISAL OF MULTI-DETECTOR CT IN SURGICAL DECISION MAKING FOR HILAR BILARY MALIGNANCIES

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INTRODUCTION AND AIM: To prospectively evaluate the usefulness of multi-detector computed tomography (MDCT) for planning operative procedures in patients with hilar biliary malignancies. PATIENTS AND METHODS: When a new patient with malignant hilar stricture was referred to our hospital, MDCT was performed on the first day. The study protocol of MDCT was a four-phase acquisition beginning at 20, 40, 70, and 120 seconds after injection of contrast medium. The stage of the disease and treatment plan were discussed at the hepato-biliary disease conference. When the disease was judged as probably resectable, the operative procedure was decided based on MDCT findings. Between September 2002 and October 2004, 27 hilar biliary malignancies were judged as probably resectable. Among them, 19 patients (hilar cholangiocarcinoma 11, gallbladder cancer 4, intrahepatic bile duct cancer 4) in whom biliary drainage had not been performed at the time of MDCT were enrolled in this study. RESULTS: Of 19 probably resectable tumors, 18 were in fact resectable at surgery. The operative procedures planned based on the MDCT findings were performed in 17 of 18 resected cases (94% of the resected cases). Curative resection with microscopic negative surgical margins was done in 15 of 18 resected cases (83%). The cause of noncurative resection in three cases was positive surgical margin by mucosal carcinoma and planning operative procedures in patients with hilar biliary malignancies.

3 CT-GUIDED PERCUTANEOUS DRAINAGE OF SOLITARY AND MULTIPLE PYOGENIC LIVER ABSCESSES: AN EFFECTIVE AND LOW COST THERAPY

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INTRODUCTION AND AIM: Untreated pyogenic liver abscesses are almost uniformly fatal. Traditionally, treatment consists of anti-biotic administration and drainage of purulent collections. In this report, therefore, we compared the characteristics of the patients and the efficacy of CT-guided percutaneous drainage (CT-PD) between solitary and multiple abscesses. PATIENTS AND METHODS: CT-guided percutaneous drainage was carried out in 108 patients with pyogenic liver abscesses. The abscesses were solitary in 97 patients and multiple (2–5) in 11 patients. 12-14F catheters were used for continuous irrigation. Multiple catheters were used in 5 patients with large and multiple pyogenic liver abscesses. RESULTS: Biliary diseases were more frequently observed in the solitary cases than multiple cases. The most frequent organisms were E. coli, Streptococcus, Klebsiella pneumoniae and Salmonella spp. E. coli was more frequently cultured from the abscesses in the multiple cases. In 2 cases, it was not possible to bacteriologically identify the germs. All the solitary cases were successfully treated. The average duration of CT-PD was 12 days. CONCLUSION: CT-guided percutaneous drainage is a highly effective method in solitary or multiple pyogenic liver abscesses. Surgical drainage is more likely to be required in patients with PET/CT negative liver abscesses. CT-PD is a simple method in the treatment of non-tuberculous liver abscesses.

4 CYSTIC PanCREATIC TUMOR: DIAGNOSIS WITH SPIRAL CT AND PERCUSITANEOUS CT-GUIDED BIOPSY

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INTRODUCTION AND AIM: Cystic pancreatic tumors account 1–3% of all pancreatic neoplasms and 10–13% of cystic pancreatic lesions. They are divided into two groups: microcystic adenoma and macrocystic adenoma, which have significantly different therapeutic and prognostic implications. This study evaluates the diagnostic value of spiral CT and CT-guided biopsy for the confirmation of these types of lesions. PATIENTS AND METHODS: In 4 years 33 patients having cystic lesions in pancreas without known clinical history of pancreatitis underwent triple phase spiral CT (without and with IV contrast) and CT-guided biopsy (FNA 22 and 18). The infusion protocol of contrast was: flow rate: 5 mL/min and delay: 20 s (1st phase) and 50 s (2nd phase), total volume: 125–150 mL. We evaluated the size, location and morphology of these lesions. RESULTS: Specific diagnosis before surgery was achieved with CBN in 24 (72.7%) patients. Characterization of lesion with CT findings was possible in 20 (60%) cases. In 12 secondarily (36.2%) patients we had incorrect or non-specific diagnosis, respectively. We had no complications from the biopsies. The final diagnosis was: serous cystadenoma (5), mucinous cystadenocarcinoma (13),...
intraductal adenocarcinoma with cystic degeneration (1), cystic islet cell tumor (1), pseudocyst (2), epithelial cyst (2). CONCLUSION: Spiral CT and CT-guided biopsy is an up-to-date method for the confirmation and characterization of cystic pancreatic tumors. The exact diagnosis before surgery reduces morbidity and mortality.

5 PREOPERATIVE STAGING OF PANCREATIC CARCINOMA: IS DUAL-PHASE SPIRAL CT ADEQUATE FOR THE CONFIRMATION OF ITS RESECTABILITY?

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INTRODUCTION AND AIM: To present the value of dual-phase spiral CT for the confirmation of resectability and preoperative staging of pancreatic carcinoma. PATIENTS AND METHODS: In a period of 4 years, 84 patients with pancreatic carcinoma underwent dual-phase spiral CT for preoperative staging. CT scans after IV administration of contrast material with an electronic injector were obtained at the arterial (scan delay=20 s) and at the portal venous phase (scan delay=50 s) under a protocol with total volume = 150 ml, flow rate 5 ml/s. We correlated the CT findings with surgopathologic specimens. RESULTS: Dual-phase spiral CT was positive for pancreatic carcinoma in 178 patients (96.7%). In 6 patients results were false-positive (3.3%). 48 (78.4%) of 55 patients showed hepatic metastases, 33 (64.7%) of 51 patients showed lymph node enlargement, 63 (88%) of 66 patients had vascular invasion and 4 (66.6%) of 12 patients had peritoneal metastases. The accuracy of the method was up to 90%. CONCLUSION: Dual-phase spiral CT is a safe, noninvasive, and accurate method to investigate pancreatic carcinoma and should be considered as the standard preoperative method for assessing lesion resectability.

6 DIAGNOSTIC VALUE OF ULTRASOUND FOR DETECTION OF LOCAL RECURRENT FOLLOWING RADIOFREQUENCY ABLATION IN THE LIVER

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INTRODUCTION AND AIM: Ultrasound has proven to be useful in imaging radiofrequency ablation (RFA) lesions intra- and postoperatively. The present study aimed to prove the value of ultrasound examination as a means of screening RFA-treated patients for local tumor recurrence. PATIENTS AND METHODS: Since February 2001, 91 RFA treatments in 61 patients have been performed in our department. Indications for RFA were HCC (74%), colorectal metastases (18%), recurrent CCC (5%), and one NB. As well one metastasis of pancreatic cancer (each 1.5%). RFA was only considered in non-resectable liver cancer. Each application was sonographically guided following preoperative evaluation. Postoperative screening included sonographic examinations at intervals of 3, 6 and 12 months postoperatively and further annual follow-up examinations. Mean follow-up period was 11.8 months. RESULTS: Within the first 12 months after the treatment, the lesions become more and more inhomogeneous with mixed echogenicity. Occasionally, this evolves as a misleading finding mimicking early tumor recurrence. In suspicious cases (31%), magnetic resonancc imaging (20%) or computed tomography (11%) was engaged to clarify the situation. Ultrasound led to detection of local tumor recurrence in 78% of recurrent HCC (10 patients), but just in 67% of metastatic disease (3 patients). Overall local recurrence rate was 14%. CONCLUSION: At least in primary hepatic malignant disease, ultrasound screening as a follow-up, in spite of low specificity, is sufficient for detecting early local recurrence due to high sensitivity. Further imaging techniques should be engaged in confirming suspicious lesions.

7 POSSIBILITIES OF ULTRASOUND HISTOGRAPHY IN DIAGNOSIS OF CHRONIC ALCOHOLIC PANCREATITIS (CAP)

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INTRODUCTION AND AIM: CAP sonographic signs are nonspecific and their evaluation has subjective and empirical character. Aim: to increase informative capacity of pancreas sonography in CAP. PATIENTS AND METHODS: We examined 92 CAP patients, in whom the following indices of ultrasound histography were analyzed: B—the width of histogram basis; S—initial interval (segment from level of gray corresponding to “1” to first histogram elements); L—level of gray most typical for examined area. These data were a basis for calculation of the histogram index. 30 healthy persons were also examined. RESULTS: In indurative-obstructive variant of CAP index I was 0.42±0.09, in parenchymatous 1.92±0.11 and in healthy 0.96±0.12. In both CAP variants index I was reliably different between variants of the disease and from normal level as well. So I allows not only diagnosis of the disease, but lets us differentiate clinic variants of CAP. Sensitivity of index I in CAP was 98.9%, while traditional sonography was 72.0%. CONCLUSION: Ultrasound histography (histographic index) increases the informative capacity of sonography in CAP diagnostics.

8 THE IMPACT OF INTRAOPERATIVE ULTRASOUNDGRAPHY (IOUS) IN LIVER SURGERY

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INTRODUCTION AND AIM: Intraoperative ultrasoundography (IOUS) during surgery for primary and metastatic hepatic tumors identifies additional lesions and helps in determining the optimal surgical strategy. In this study, we assess the impact of IOUS in liver surgery at the Tata Memorial Hospital, a tertiary cancer centre in India. This is the first study on IOUS reported from India. PATIENTS AND METHODS: Patients with potentially resectable hepatic tumors underwent surgical exploration. IOUS was performed and relationship of the tumor with regard to the intrahepatic vasculature was determined. A search was also made for additional lesions not detected by preoperative imaging modalities. In appropriate cases, IOUS was also used to assist resection and radiofrequency ablation. RESULTS: Between January 2003 and September 2004, 41 patients underwent surgery for hepatic lesions. IOUS detected additional hepatic lesions in 11 patients (24.4%). IOUS was directly responsible for avoiding resection or radiofrequency ablation in 7 patients (17.1%), 5 of whom had multiple bilobar lesions, 1 had IOUS-guided biopsy which revealed casing granuloma on frozen section (thus obviating the need of resection/ablation), and 1 patient had no lesion on IOUS. IOUS also guided radiofrequency ablation in 8 patients and assisted in resection in 30 patients. CONCLUSION: IOUS is an essential tool in surgery for hepatic tumors. In addition to accurate staging, it also helps in safe resection and radiofrequency ablation in appropriate cases.

9 THE UTILITY OF 99M TC-MEBROFENIN SCINTIGRAPHY IN EVALUATING LIVER STEATOSIS IN A RAT MODEL

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INTRODUCTION AND AIM: There are no invasive methods to evaluate the progress and severity of steatosis. This study evaluates the utility of 99mTc-mebrofenin scintigraphy in correlating hepatic function with structural changes related to steatosis and steatohepatitis in a rat model. PATIENTS AND METHODS: Wistar rats (250–300 g) were fed a methione- and choline-deficient diet (MCDD) inducing hepatic steatosis and steatohepatitis at 1, 3, 5 and 7 weeks (n=4 per time point). Baseline controls were also used (n=4). 99mTc-mebrofenin pinhole scintigraphy was used to determine uptake from the hepatocyte. 99mTc-mebrofenin uptake rate and the time of maximal uptake (Tmax). The hepatic uptake was correlated with hepatocellular damage (ALT, AST/ALT ratio), synthesis function (prothrombin time: PT-TT), inflammation (TNF-alpha in plasma and liver), hepatic triglycerides and with histopathology (steatosis, inflammation, fibrosis in H&E and Oil Red Stains). RESULTS: MCDD diet induced steatosis after 1 week and steatohepatitis after 5 weeks with typical pathological features (increased inflammatory activity, mild fibrosis). Tmax was significantly slower in steatotic rats
There was a strong correlation between the severity of steatosis and 99mTc-mebrofenin uptake rate ($r=0.82, p<0.0001$), the uptake rate decreased significantly when the severity of steatosis increased. 99mTc-mebrofenin uptake rate also correlated independently with plasma and hepatic TNF-alpha ($r=0.72, p<0.0001$ and $r=0.52, p<0.0001$, respectively), with hepatic triglycerides content ($r=0.82, p<0.0001$) and with PT-PTT ($r=0.07, p<0.001$). The correlation of uptake rate with ALT and AST/ALT ratio was weak ($r=0.32$ and $r=0.29$). CONCLUSION: 99mTc-mebrofenin uptake rate correlates strongly with severity of steatosis and steatohepatitis, suggesting the utility of 99mTc-hepatoobiliary scintigraphy as a noninvasive method for monitoring disease progression in steatosis and steatohapatitis.

**10 SPLENCHNIC PSEU DOE ANEURYSMS: A CASE REPORT**

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**INTRODUCTION AND AIM:** We describe the presentation and management of splanchnic arterial pseudoaneurysms in two patients.

**PATIENTS AND METHODS:** One of the patients presented with intermittent haematemesis and melaena along with acute upper abdominal pain and was diagnosed with duodenal artery and pancreaticoduodenal arteries are less commonly angiogram.

**RESULTS:** While the first patient could be successfully treated with transcatheter embolisation of the gastroduodenal artery, the other patient with pseudoaneurysm of the cystic artery required emergency surgical intervention. CONCLUSION: Splanchnic arterial pseudoaneurysms, other than those of the splenic artery secondary to pancreatitis, are extremely uncommon. The gastroduodenal artery and pancreaticoduodenal arteries are less commonly affected. Even rarer are pseudoaneurysms of the hepatic artery. The complexity of the anatomical location makes surgical treatment hazardous. Transcatheter embolization is a definitive minimal invasive form of treatment and surgical treatment is necessitated only when this fails.

**11 CONTRAST-ENHANCED INTRAOPERATIVE ULTRASONOGRAPHY DURING HEPATECTOMIES FOR PRIMARY AND METASTATIC TUMORS: RESULTS IN A PROSPECTIVE COHORT OF PATIENTS**

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**INTRODUCTION AND AIM:** Preliminary reports showed that contrast-enhanced intraoperative ultrasonography (CE-IIOUS) is feasible and seems to add important information to that provided with conventional intraoperative ultrasonography (IOUS). The aim of this study is to validate the impact of CE-IIOUS in resective surgery for primary and secondary liver tumors PATIENTS AND METHODS: Between September 2003 and November 2004, 57 consecutive patients underwent liver resection using IOUS and CE-IIOUS. There were 35 males and 22 females and mean patient age was 65.6 years (median 67; range 36–87). 34 patients had HCC, and 23 colorectal cancer (CRC) liver metastases. CE-IIOUS was accomplished injecting intravenously 2.4 ml of sulphur-hexafluoride microbubbles.

**RESULTS:** CE-IIOUS provided new information in 21 patients out of 57 (37%). In patients with HCC, it did not confirm as malignant the new nodules detected by IOUS in 7 patients, it confirmed the malignancy of part of the new nodules detected by IOUS in 4 and in the remaining 2 it fully confirmed as HCC the additional lesions detected by IOUS. In patients with CRC liver metastases, CE-IIOUS disclosed new lesions missed at preoperative imaging and at IOUS in 4 patients, which accounted for 17% of all patients with CRC liver metastases, and confirmed all the additional lesions detected by IOUS in the remaining 3 patients. Additionally, CE-IIOUS helped in defining the tumor margins of the main lesion in 5 of 23 patients (22%). CONCLUSION: These results show that IOUS accuracy is improved by CE-IIOUS with a significant impact on surgical strategy and radicality.

**12 18-FDG PET IS VERY USEFUL IN THE DIAGNOSIS AND MANAGEMENT OF NONPANCREATIC PERIPANCREAL NEOPLASMS**

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**INTRODUCTION AND AIM:** 18-Fluorodeoxyglucose positron emission tomography (18-FDG PET) has been investigated for diagnosis and staging of gastrointestinal malignancies including pancreatic adenocarcinoma. However, its role in the clinical management of nonpancreatic peripancreal tumors has not been studied so far. The aim of this study was to examine the clinical impact of 18-FDG PET in the diagnosis and follow-up of patients before peripancreal neoplasms. PATIENTS AND METHODS: 23 patients (14 males and 9 females, mean age 65.1 years, range 41–83) underwent whole-body 18-FDG PET and abdominal computer tomography (helical CT). In all patients malignant or benign disease was confirmed pathologically after surgery. The 18-FDG PET was analyzed visually and semi-quantitatively using the standard uptake value (SUV). Positivity was assumed when a focal uptake occurred which was a SUV of at least 2.5. RESULTS: There were 14 ampullary tumors (9 adenocarcinomas and 5 adenomas), 7 bile duct neoplasms (6 adenocarcinomas and 1 carcinoma in situ), and 2 duodenal tumors (1 adenocarcinoma and 1 leiomyoma). 18 patients underwent pancreaticoduodenectomy, 2 local excision, and 3 bypass surgery. 18-FDG PET showed increased focal uptake in 20 patients (87%); localization of the new lesions by CT and 18-FDG PET was performed in 8 patients: 18-FDG PET showed recurrent disease not seen by CT in 4 patients, confirmed CT findings in 3. A patient underwent resection of the recurrence, 2 patients underwent palliative surgery, 4 patients did not undergo surgery. Finally a primary lung cancer was detected by 18-FDG PET and resected.

**CONCLUSION:** 18-FDG PET showed high sensitivity for detecting peripancreal neoplasms. 18-FDG PET may be useful in clinical practice when no mass has been identified by traditional imaging, to differentiate benign or borderline lesions from invasive tumors, and in the follow-up to identify recurrent disease.

**13 THE DIAGNOSIS OF DUCT DISRUPTION AND Pancreatic Leak WITH Dynamic SECRETIN STIMULATED MRCP**

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**INTRODUCTION AND AIM:** Pancreatic duct disruption (PDD) and presence of pancreatic leak (PL), are significant factors influencing outcome and choice of the treatment in patients with pancreatic trauma and pancreatitis. This study assesses the role of secretin MRCP (sMRCP) in patients with suspected PDD and PL.

**PATIENTS AND METHODS:** 17 patients (13 M, 4F) mean age 39 yrs (range 10–71) with complicated pancreatitis (9), blunt abdominal trauma (5) and iatrogenic injury (3) underwent Secretin MRCP (sMRCP) before and after 0.1 ml/kg IV Secretin (Sanochemia, Germany). Diagnostic criteria for PDD and PL were (a) parenchymal continuity and lacerations, (b) duct size before and after Secretin, (c) location and increase in the size and signal intensity of peripancreatic fluid collections after Secretin.

**sMRCP findings were correlated with clinical outcome and choice of conservative or interventional treatment at a mean follow-up of 6 months (range 2–54). RESULTS:** There were no complications after sMRCP. 10/17 patients had PDD and PL on sMRCP. 6 had surgery and 1 endoscopic stenting with resolution of symptoms. Out of 3 patients with PL on sMRCP treated conservatively, 1 showed resolution on a 2nd sMRCP. 2 others continued to have problems for several months. sMRCP was negative in 7 patients, 5 responded to conservative therapy (total parenteral nutrition 1 duct obstruction and pain, 1 false negative result). Sensitivity of sMRCP in predicting need for intervention was 78%. **CONCLUSION:** Secretin MRCP is a safe noninvasive test which helps to
diagnose PDD and PL and select patients for either interventional or conservative treatment.

14 FLUORODEOXYGLUCOSE PET IN THE EVALUATION OF BILIARY TRACT CARCINOMA

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INTRODUCTION AND AIM: The aim is to evaluate the utility of positron emission tomography with [18F]-labeled fluorodeoxyglucose (FDG) for staging of primary possibly resectable cholangiocarcinoma (CC) and gallbladder carcinoma (GBC) and for detection of recurrence of those tumors. PATIENTS AND METHODS: Patients with CC (n=41), with GBC (n=19), and with benign lesions of the bile ducts (n=5) underwent FDG-PET (200–250 MBq [18F]-FDG, GE ADVANCE NXi) and whole-body multidetector row computed tomography (MDCT). RESULTS: For staging of primary tumors, true-positive FDG-PET scans were obtained in a total of 41 (89%) of all malignant lesions (30 of 35 CC and 11 of GBC). FDG-PET was positive for 20 (95%) of 21 nodular tumors, but for 11 (73%) of 15 infiltrating tumors. MDCT detected in the total of 44 (96%) of all malignant lesions (33 of 35 CC and all 11 GBC). The FDG-PET scan was true-negative in all 5 benign lesions. The sensitivity, specificity, and accuracy of FDG-PET for regional lymph node metastases were 38%, 100%, and 73%, while those of MDCT were 50%, 81%, and 71%, respectively. Distant metastases were diagnosed in all 4 cases on FDG-PET, whereas 3 of 4 on MDCT. The sensitivity, specificity, and accuracy of FDG-PET for detection of recurrence were 100%, 100%, and 100%, while those of MDCT were 83%, 75%, and 79%, respectively. CONCLUSION: PET is highly sensitive and specific for the detection of primary and recurrent CC and GBC. It can be helpful for detection of distant metastases but is not suitable for detection of regional lymph node metastases.

15 NEW ANATOMY OF THE LIVER REGARDING PORTAL SEGMENTATION AND DRAINAGE VEIN

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INTRODUCTION AND AIM: Couinaud divided the right liver into four segments (S5, S6, S7, and S8). This classification proposed by Couinaud is widely accepted but we have experienced so many differences between Couinaud’s anatomy and 3-D image anatomy during surgery. PATIENTS AND METHODS: We evaluated the portal segmentation of the right anterior and posterior segment of the liver by using helical CT during arterial portography. Material was 84 patients without tumor or cirrhosis. RESULTS: The right anterior portal trunk does not bifurcate into P8 and P9. In all cases, the right anterior portal trunk bifurcated into ventralis and dorsalis, which were equal in size. All drainage veins of the antero-ventral area join the middle hepatic vein. All drainage veins of the antero-dorsal area joined the right hepatic vein. The hepatic vein crossing between the ventral and dorsal areas is always observed. In 70% of cases, antero-ventral region, antero-dorsal and posterior segments were similar size in volume. CONCLUSION: Regarding portal segmentation and liver volume, right liver should be divided into 3 segments as antero-ventral segment, antero-dorsal segment, and posterior segment.

16 Tc99m CIPROFLOXACIN IMAGING IN ACUTE CHOLECYSTITIS

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INTRODUCTION AND AIM: Diagnosis of acute cholecystitis has been made by ultrasonography or biliary scintigraphy. In this study, we introduce a new nuclear imaging for Tc-99m ciprofloxacin (infection) in the diagnosis of acute cholecystitis and evaluate its efficacy. PATIENTS AND METHODS: Sixteen patients thought to have acute cholecystitis were included in this study. All of them underwent surgical intervention with laparoscopic or open cholecystectomy after undergoing ultrasonographic and nuclear imaging study. The final diagnosis of acute cholecystitis was made by clinical symptoms and ultrasonographic and pathologic findings. We analyzed the correlations between the histological findings of the gallbladder, clinical findings and nuclear images. RESULTS: Among 16 patients, 12 patients were diagnosed as acute cholecystitis and 4 as chronic cholecystitis. Twelve patients were image-positive. Among them, 11 patients were finally diagnosed as acute cholecystitis, and one was false positive. Four patients were image-negative. Among them, three were true negative, and one was false negative. This nuclear imaging had a sensitivity of 91.7% (11/12), a specificity of 75% (3/4), positive predictive value of 91.7% (11/12), and negative predictive value of 75% (3/4). No adverse reaction occurred following the administration of the radiopharmaceutical to patients. CONCLUSION: Tc-99m ciprofloxacin imaging is easy and applicable for the diagnosis of acute cholecystitis.