patients with tumor located on the distal extrahepatic bile ducts and two patients with hilar location). The other patients were treated with interventional palliative procedures including: insertion of biliary endoprotesis (8 patients), percutaneous drainage (7 patients), external-internal biliary drainage (2 patients) and symptomatic treatment (6 patients) for patients with advanced disease and with other comorbidity.

CONCLUSION

Classification of cholangiocarcinoma based on macro morphologic characteristics is valuable for the interpretation of imaging features, it is important for accurate diagnosis and differentiation from other tumors and non-tumorous lesions. It is also useful for predicting prognosis and plannig the surgical approach. Patients with cholangiocarcioma of the extrahepatic bile ducts and particularly on the distal portion had better prognosis because symptoms occur earlier in the disease course even in small size tumor. Cholangiocellular carcinoma within the liver does not clinically present when the tumor is small and is difficult to be diagnosed in an early stage. Better prognosis and more therapeutic options are reserved for cholangiocarcinoma diagnosed in an early stage.

01У02 СТАНДАРДНАТА И КОНТРАСТНО-ЗАСИЛЕНАТА ДОПЛЕР СОНОГРАФИЈА ВО ПРОЦЕНКАТА НА ВАСКУЛАРНИОТ ПРИКАЗ КАЈ ХЕПАТОЦЕЛУЛАРНИОТ КАРЦИНОМ

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ЦЕЛ НА ТРУДОТ: Анализа на типот на васкуларност кај хепатоцелуларниот карцином (ХЦЦ) при примена на различните доплер техники и евалуација на можноста за диференцирање на хепатоцелуларниот карцином во однос на вакуларниот приказ од други фокални црнодробни промени.

МАТЕРИЈАЛ И МЕТОД: Стандарден и контрастно-засилен color и power доплер со примена на контрастен медиум Levovist беше изведен кај 34 случаи на подоцна хистопатолошки докажан хепатоцелуларен карцином. Типот на васкуларниот приказ беше одредуван според класификацијата на Tanaka и Kubbota. Поставувана е сонографска дијагноза при одделните доплер методи во однос на карактерот на лезијата.

РЕЗУЛТАТИ: Утврдена беше високо сигнификантна разлика ($p<0.01$) во васкуларните прикази меѓу доплер методите при анализата на ХЦЦ лезиите. Power доплерот и контрастно-засилените доплер методи беа супериорни во однос на color доплерот во детекцијата на васкуларниот приказ кај ХЦЦ. Контрастно-засилениот power доплер беше супериорен во однос на стандардниот. При стандарните и контрастно-засилените доплер анализи на ХЦЦ лезиите, кај детектираните васкуларни прикази доминираат типовите прикази: basket pattern (BP), vessel in tumor (VT) и BP+VT. Кростабулациите со Вилкоксоновиот тест покажаа високо статистички значајни разлики ($p<0.01$) во поставените сонографски дијагнози кај ХЦЦ лезиите меѓу стандарните и контрастно-засилените color и power доплер. Разликата меѓу сонографските дијагнози при контрастно засилениот color и power доплер беше статистички значајна ($p<0.05$), додека кај другите споредби меѓу одделните методи забележаната разлика не беше статистички значајна ($p>0.05$).

ЗАКЛУЧОК: Доплер методите (стандарни и контрастно-засилени) се корисни, безбедни, лесно апликативни модалитети за проценка на типот и степенот на васкуларност кај хепатоцелуларниот карцином, а контрастно-засилените доплер техники покажуваат повисока дијагностичка вредност во диференцирањето на ХЦЦ лезиите.

01U02 STANDARD AND CONTRAST-ENHANCED D0PPPLER SONOGRAPHY IN ASSESSMENT OF THE VASCULAR PATTERN IN HEPATOCELLULAR CARCINOMA

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AIM: Analysis of the type of vascularity in hepatocellular carcinoma (HCC) with various Doppler techniques and evaluation of the possibility of differentiating hepatocellular carcinoma in relation to the vascular pattern from other focal liver lesions.

MATERIAL AND METHODS: Standard and contrast enhanced color and power Doppler using contrast medium Levovist was performed in 34 cases of subsequently histopathologically proven hepatocellular carcinoma. The type of vascular pattern was assessed according to the classification of Tanaka and Kubbota. Doppler characteristics of different Doppler methods aimed to allow sonographic diagnosis in different liver lesions.

RESULTS: Highly significant difference ($p < 0.01$) was established in vascular patterns between Doppler methods in the analysis of HCC lesions. Power Doppler and contrast-enhanced Doppler methods were superior to color Doppler in detection of the vascular pattern in HCC. Contrast-enhanced power Doppler was superior to standard. With standard and contrast-enhanced Doppler analysis of HCC lesions dominating vascular patterns were: basket pattern (BP), vessel in tumor (VT) and BP + VT. Crostabulation with Wilcoxon test showd highly statistically significant differences ($p < 0.01$) in the sonographically diagnosed HCC lesions between standard and contrast-enhanced color and power Doppler. The difference between sonographical diagnoses in contrast-enhanced color and power Doppler was statistically significant ($p < 0.05$), while in the other comparisons between different methods the difference was not statistically significant ($p > 0.05$).

CONCLUSION: Doppler methods (standard and contrast-enhanced) are useful, safe, easyly applicable modalities for assessing the type and degree of vascularity in hepatocellular carcinoma, and contrast-enhanced Doppler techniques show higher diagnostic value in differentiation of HCC lesions.

01U03 MANAGEMENT OF GASTROINTESTINAL AND LIVER DISEASES BY INTERVENTIONAL ULTRASOUND

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Ultrasound is divided in: basic, interventional, color Doppler, power Doppler and endosonography. Interventional ultrasound is subdivided in: diagnostic including percutaneous biopsy guided by ultrasound (liver, pancreas and other abdominal organs), and therapeutic which include percutaneous drainage guided by ultrasound (subphrenic abscesses, bilomas, dilatated bile ducts, gall bladder, pancreatic abscesses and pseudocysts etc). Liver abscesses are most common accounting for 48%. Biliary ethiopathogenesis is most frequent and 90% of these patients can be successfully treated by percutaneous drainage guided by ultrasound with no mortality. Bilomas usually occur after surgery on the biliary tree and these patients are under the risk if another operation is performed. Therefore, percutaneous drainage is treatment of choice with high curative rate (about 92%) with no mortality. In selected patients, endoscopic insertion of endoprotesis into the common bile duct is recommended in addition to the percutaneous drainage which provides better results. In some elder patients, surgical treatment for acute cholecystitis might be risky, therefore percutaneous drainage is recommended with satisfying treatment results (77%). Percutaneous biliary drainage guided by ultrasound might be performed in all patients with biliary obstruction. The procedure is used in some patients before surgery to resolve the obstructive syndrome and lowering the bilirubin level. Percutaneous drainage with biliary endoprotesis might be employed as definitive treatment in patients where surgery is not considered (elder patients with contraindications for surgery or patients with advanced malignances). In case of hilar obstruction, percutaneous drainage is not recommended because it requires more drainage catheters