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320排CT上腹部一站式检查在肝癌TACE治疗中的价值

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Title: Value of 320-row CT upper abdominal one-stop examination in transcatheter arterial chemoembolization treatment for hepatocellular carcinoma

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关键词: [肝细胞癌](#); [CT灌注](#); [数字减影血管造影](#); [栓塞](#); [血管成像](#)

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摘要: 目的 探寻320排CT上腹部一站式检查在肝癌经动脉插管化疗栓塞 (transcatheter arterial chemoembolization, TACE)治疗中的临床应用价值。

方法 收集30例肝癌患者TACE术前行320排CT上腹部灌注扫描病例,分析全肝灌注情况,与TACE术中数字减影血管造影(digital subtraction angiography, DSA)图像对比了解其血管成像能力,术后随访病灶灌注情况并与术前对比分析。对320排灌注容积扫描行辐射剂量分析。结果 TACE术前肝癌组织肝动脉灌注量(hepatic arterial perfusion,HAP)、门静脉灌注量(portal vein perfusion,PVP)及肝动脉灌注指数(hepatic arterial perfusion index,HAPI)与非癌组织相比,差异有统计学意义

($P<0.05$);术后肿瘤坏死组织无血流灌注;肿瘤活性组织的HAP、PVP较术前升高,HAPI则下降,较术后非癌组织其HAP及HAPI升高,而PVP则明显降低,差异有统计学意义($P<0.05$)。30次扫描中均能获得满意上腹部CT血管成像(computer tomography angiography,CTA)图像;对1~4级肝动脉CTA与DSA对比显示,差异无统计学意义($P>0.05$),5级及以上肝动脉CTA与DSA比较,差异有统计学意义($P<0.01$)。剂量对比发现低参数(100 kV、100 mA)灌注扫描较常规上腹部增强扫描辐射剂量低,稍高参数灌注扫描方案(100 kV、200 mA)辐射剂量仅轻度增高。结论 320排CT上腹部一站式检查能很好地显示全肝灌注情况,尤其是肝癌组织的异常灌注情况及术后活性灶,血管成像能够从三维角度显示肝动脉及肿瘤滋养动脉,对TACE术前评估、术中操作及术后随访都具有重要的指导意义。

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[本期目录/Table of Contents](#)

[下一篇/Next Article](#)

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Abstract: **Objective** To explore the clinical value of 320-row CT upper abdominal one-stop examination in transcatheter arterial chemoembolization(TACE) treatment for hepatocellular carcinoma (HCC). **Methods** Totally 30 patients with HCC underwent upper abdominal perfusion scanning with 320-row CT before TACE. The whole liver perfusion was analyzed, and the angiography capability of 320-row CT scan was compared with that of digital subtraction angiography (DSA) in TACE. Cancer tissue perfusion was followed up after operation and was compared with that before operation. The radiation doses of 320-row CT perfusion scan were also analyzed. **Results** There were significant differences in hepatic arterial perfusion (HAP), portal vein perfusion (PVP) and hepatic arterial perfusion index (HAPI) between cancer tissues and non-cancerous tissues before TACE ($P<0.05$). Cancer necrotic tissues had no blood perfusion after TACE. Higher HAP and PVP and lower HAPI were observed in active cancer tissues after operation as compared with those before operation, while higher HAP and HAPI and lower PVP were observed in active cancer tissues as compared with the non-cancerous tissues after operation. Those differences were statistically significant. Satisfactory upper abdominal computer tomography angiography (CTA) images were obtained in all the 30 scans. The comparison between 1-4 grade hepatic artery CTA and DSA had no significant difference ($P>0.05$), while the comparison between 5 or more than 5 grade CTA and DSA confirmed significant difference ($P<0.01$). Perfusion scan with lower parameter (100 kV, 100 mA) had lower radiation dose than the conventional upper abdomen enhanced scan did, while that with higher parameter (100 kV, 200 mA) only had slightly higher radiation dose. **Conclusion** 320-row CT upper abdominal one-stop examination can display the whole liver perfusion well, especially the abnormal perfusion of hepatocellular carcinoma tissues and postoperative active tissues. Angiography can display the hepatic arteries and nutrient arteries of tumors from three dimensions, and has important guiding significance in preoperative evaluation, surgery operation and postoperative follow up of TACE.

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