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## 三维超声联合TUI和VCI技术诊断肝实性肿瘤

### Three-dimensional ultrasound technology combined with tomographic ultrasound imaging and volume contrast imaging in diagnosis of solid liver masses

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中文关键词: [肝肿瘤](#) [超声检查](#) [断层超声成像](#) [容积超声对比成像](#)

英文关键词: [Liver neoplasms](#) [Ultrasonography](#) [Tomographic ultrasound imaging](#) [Volume contrast imaging](#)

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中文摘要:

目的 探讨三维超声联合断层超声成像(TUI)和容积空间对比成像(VCI)技术诊断肝实性肿瘤的价值。方法 对50个肝实性肿瘤病灶分别进行二维超声与三维超声联合TUI、VCI检查,两种技术对病灶的显示能力。以手术或穿刺活检的病理结果作为金标准,对二者诊断的准确率进行比较,对比分析两种方法对肝恶性肿瘤诊断的敏感度、特异度、准确率、阳性预测值、预测值。结果 二维超声诊断与病理诊断的符合率为68.00%(34/50),三维超声联合TUI、VCI技术诊断与病理诊断的符合率为90.00%(45/50, $P<0.05$ );三维超声联合TUI、VCI技术诊断肝恶性肿瘤的敏感度为91.67%(33/36)、特异度为85.71%(12/14)、准确率为90.00%(45/50)、阳性预测值为94.29%(33/35)、阴性预测值为80.00%(12/15),其敏感度、准确率、阴性预测值与二维超声肝恶性肿瘤比较差异有统计学意义( $P$ 均 $<0.05$ )。结论 三维超声联合TUI、VCI技术能够提供更全面、更丰富的诊断信息,对定性诊断肝脏肿瘤有较高的临床应用价值。

英文摘要:

**Objective** To investigate the value of 3D ultrasound combined with tomographic ultrasound imaging (TUI) and volume contrast imaging (VCI) in diagnosis of liver solid masses. **Methods** A total of 50 solid liver masses underwent 3D ultrasound combined with TUI and VCI as well as 2D-ultrasound, respectively. The displaying ability of lesions of these technologies were evaluated. The pathologic findings from the surgery or biopsy were taken as gold standards. The coincidence rate with pathology, and the sensitivity, specificity, accuracy, positive predictive rate and negative predictive rate were compared between 3D-ultrasound combined with TUI and VCI and 2D-ultrasound. **Results** The coincidence rate with pathology for 2D-ultrasound was 68.00% (34/50), for 3D-ultrasound combined with TUI and VCI was 90.00% (45/50,  $P<0.05$ ). The sensitivity, specificity, accuracy, positive predictive rate and negative predictive rate of 3D-ultrasound combined with TUI and VCI was 91.67% (33/36), 85.71% (12/14), 90.00% (45/50), 94.29% (33/35) and 80.00% (12/15) in diagnosis of liver cancer, respectively, and the sensitivity, accuracy and negative predictive rate were superior to those of 2D-ultrasound (all  $P<0.05$ ). **Conclusion** 3D-ultrasound combined with TUI and VCI can provide comprehensive and plentiful diagnostic information for clinicians, which has higher value in qualitative diagnosis of liver tumor.

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