

**P024****Three-dimensional visualization evaluation and VR study of giant liver cancer with blood vessels as the axis****Chihua FANG***Department of Hepatobiliary Surgery, Zhujiang Hospital, Southern Medical University, China*

**Introduction :** To explore the clinical application value of three-dimensional visualization of blood vessels as the axis and virtual reality technology in giant liver cancer.

**Methods :** The thin-layer CT image data of 13 patients who were diagnosed as giant primary liver cancer by medical history, imaging and laboratory tests were collected for three-dimensional reconstruction, and then transformed into VR model. The anatomical relationship between the tumor and its surrounding important structures was analyzed. The preoperative evaluation, typing and surgical planning based on blood vessels as the axis were carried out to guide intraoperative navigation. The consistency was verified by the intraoperative rapid pathological examination.

**Results :** 13 patients successfully achieved 3D reconstruction and VR model transformation. According to the 3D visualization classification of blood vessels as the axis, 13 cases were as follows: 3 cases of type I a grade 1, 2 cases of type I a grade 2; 1 case of type II a grade 2; 1 case of type II b grade 3; 2 cases of type II c grade 3; 4 cases of type II a grade 3.

**Conclusions :** Three-dimensional visualization and VR technology can provide comprehensive information on the anatomical structure of liver cancer lesions and blood vessels, which is of great value in the application of giant liver cancer surgery.

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