

Intra-operative right ventricle function assessment in patients with tumor thrombus in inferior vena cava by transesophageal echocardiography:a retrospective cohort study

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Abstract

Objectives: To summarize intraoperative right ventricle function assessments in patients with tumor thrombus in inferior vena cava by transesophageal echocardiography. **Design:** Retrospective analysis. **Settings:** University of Peking University People's Hospital **Participants:** Patients who had experienced inferior vena cava tumor resection from Jun 2014 to Oct 2021. **Interventions:** Analysis of demographic data, intraoperative parameters including TEE (transesophageal echocardiography) assessments on right ventricle (RV) function, outcome data . **Variables:** were compared between groups according to the tumor invasion of right atrium (RA) or not. **Measurements and Main Results:** Variables associated with intraoperative outcomes were assessed. Fifteen patients were included in this analysis. The invasion of RA was in 11 patients (73.3%). The intraoperative parameters of right ventricle and vasoactive-inotropic score (VIS) were analyzed. There weren't significant differences between the VIS of Group A and Group B(7.18 ± 4.60 vs 7.50 ± 6.76 , $p=0.918$). The fractional area change (FAC) and tricuspid annular plane systolic excursion (TAPSE) increased significantly postoperatively. The right ventricle end-diastolic area index (RVDAI, ml/m²) of the cases invading the RA were larger than those without the invasion of the right ventricle postoperatively. The postoperative in-hospital days (POD) also lasted longer in RA involved cases. **Conclusions:** Right ventricle systolic function improved in patients with tumor thrombus in inferior vena cava (IVC) postoperatively. Patients with tumor invasion in the RA would need longer time to recover. In those patients, the strategy would be managed when IVC obstruction was relieved for prophylaxis of acute RV failure.

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