

The surgical treatment to 14 cases of pulmonary artery sarcoma

Gan Hui-li, Zhang Jian-qun, Feng Lei, Zhang Zhi-tai, Liang Lin, Zhu Guang-fa, Chen Dong (Department of Cardiac Surgery, Beijing Anzhen Hospital, Capital Medical University (BAZH—CMU), Beijing Institute of Heart, Lung and Vessel Disease, Beijing 100029 China)

[Abstract]: Aim: our aim was to investigate the effect and prognosis of surgical treatment to pulmonary artery sarcoma (PAS). **Patients and Methods:** from November, 2001 to January, 2014, nineteen PAS were diagnosed, and 14 of them were surgically treated at Beijing Anzhen Hospital, and the data were retrospectively reviewed. **Results:** All 19 patients underwent pulmonary artery CTA scan, and all showed a filling defect within the lumen of the pulmonary artery with a sign of wall eclipsing on pulmonary artery CTA; 14 patients were confirmed pulmonary artery sarcoma through histo-pathological investigation after surgery; the other five patients were confirmed to have FDG abnormal high intake mass shadow in PET-CT scan. Fourteen patients underwent surgical treatment, including 12 cases of pulmonary endarterectomy, two cases of pneumonectomy, and the other five patients had no indication for operation and died very soon. There were no perioperative deaths for surgically treated patients. Five patients without surgical treatment survived 3 days to one month after discharge. 14 patients survived 5 to 46 months after surgical treatment, with an average survival of 16.8 ± 3.8 months, the difference between the two groups reached statistical significance (t test, $P=0.0001$). Of the 12 patients with pulmonary endarterectomy, the first four cases did not and the later eight cases did undergo deep hypothermic circulatory arrest during the procedure, and their average survival were 9.7 ± 2.8 and 18.3 ± 3.5 months respectively, and the difference between them reached a statistical significance. Of the 14 patients with surgical resection, 9 patients did not and the other 5 did received adjuvant radiotherapy and chemotherapy, their average survival were 12.3 ± 3.2 and 22.8 ± 13.3 months respectively, and the difference between the two groups reached statistical significance (t test, $P=0.0387$). **Conclusion:** Radical surgical resection can provide the longer survival than non-surgical treatment to the PAS patients. Intraoperative

deep hypothermic circulatory arrest helps to fully eliminate the tumor body, tumor thrombus and superimposed blood clots, thus helps to prolong the survival time. And adjuvant chemotherapy may further extend their survival.

Key word: pulmonary artery sarcoma (PAS), surgical treatment