

A comparative study to diagnostic efficiency to pulmonary artery sarcoma through various diagnostic modes

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[Abstract]: Aim: our aim was to characterize the differential diagnostic characteristics of pulmonary artery sarcoma (PAS) through various diagnostic modes, in order to promote the diagnostic efficiency to pulmonary artery sarcoma. **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:** 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. 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; For the first 12 cases of PAS, because we did not know the "eclipse wall sign" on pulmonary artery CTA, thus leading to a misdiagnosis; then for the other seven cases afterward, we found "wall eclipse sign" on pulmonary artery CTA, thus reaching a correct diagnosis. Pulmonary artery CTA with "eclipse wall sign" has a higher diagnostic accuracy than CT scan, echocardiography, chest radiography, ECG, ventilation perfusion scan, the difference among them reached statistically significance (t test, $P=0.0001$). **Conclusion:** CT scan, echocardiography, chest radiography, ECG, ventilation-perfusion scan is nonspecific to the diagnosis of pulmonary artery sarcoma, thus they are of little diagnostic value to the lesion. The wall eclipsing sign on pulmonary artery CTA is pathognomonic for PAS; patients with this sign should be investigated to confirm the diagnosis and should undergo surgical intervention as soon as possible, rather than receiving thrombolytic or anticoagulant therapy.

Key word: pulmonary artery sarcoma (PAS), diagnosis, pulmonary artery CTA