



Anterior Circulation Steal Syndrome

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Introduction:

Arteriovenous fistula (AVF) can be congenital or acquired. Congenital AVF are less common while acquired fistula are most frequently the result of penetrating trauma or iatrogenic action.

Acquired common carotid jugular fistulas are uncommon in the head and neck region, accounting only 4 to 7% of all the traumatic AVFs encountered throughout the body that is not usually detected during the acute injury phase.

Objective:

For the first time in our center we diagnose and treat a carotid jugular vein fistula due to neck stab wound.

Case Description:

A 48 years old man with neck stab wound and strangulation was treated as an outpatient in a clinic with suturing the wound. he was stable and discharged without apparent neurologic deficit, after two days he was referred to our center due to left hemiparesis .in our assessment, Brain imaging showed right side hemodynamic infarct, in carotid duplex the flow was bidirectional and low RI, in angiography there was fistula from Right ICA to jugular vein, in left ICA angiography there was reversible flow from Right distal ICA to the fistula. After two times of bradycardia and asystolic cycle the patient was intubated and CPR was done. Cardiac arrest maybe because of cardiac problems dueto carotid jugular fistula.

Approach:

Due to carotid injury and high flow fistula, the Right ICA jugular fistula was obliterated by Balloon and ICA was also sacrificed. in left ICA Angiography the flow to Right ICA was stopped and MCA and ACA got flow from left side .the patient was stable and after few days he could be extubated and he was discharged with stable condition.

Discussion:

Carotid jugular fistula is a rare complication of neck trauma, because its symptoms appear late, with neurologic deficit many times neurologist was suspect to dissection and maybe MRA and CTA report Carotid occlusion but Duplex is an efficient device to differentiated between these two disease. in dissection there is prestenotic pattern and we can see the Flap flow in pseudolumen but in Carotid jugular fistula there is bidirectional and low resistance flow in proximal ICA. Meanwhile jugular vein have pulsatile flow due to direct carotid arterial flow.we presented a case of carotid-jugular fistula following cervical trauma.we are implicating on the role of carotid duplex for evaluation of cervical trauma. Duplex could efficiently differentiate between the two major complication of trauma that is cervical arteries dissection and carotid-jugular fistula.



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