Case Reports

THYROCERVICAL TRUNK PSEUDOANEURYSM

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Thyrocervical trunk aneurysms are very rare. Only a few cases have been reported in the literature. We present an interesting case of an eight-year-old boy who came to us with a right side neck pulsating mass which was painless. He had no history of direct trauma or catheterization, and no history of upper limb embolization or associated disease, i.e., vasculitis. There were no signs of brachial plexus compression.

Case Report

An eight-year-old boy was referred from another hospital with a two-month history of a mass in the right supraclavicular area which was gradually increasing in size (Figure 1). There was no history of trauma or catheterization, or family history of aneurysms or vasculitis diseases. He had had a CT scan in the local hospital and was diagnosed as a case of right subclavian artery aneurysm and referred for further management.

Neck examination showed a right supraclavicular mass around 4 x 5 cm which was pulsating, firm, mobile and non-tender. There was no bruit and transillumination test was negative. Right upper limb pulses and neurological examination were normal. The rest of the vascular and physical examinations were normal. Ultrasound of the neck showed a mass measuring 5 x 3 x 3 cm. CT scan without contrast showed an aneurysm-like mass in the right supraclavicular area filled in by a large thrombus. The CT scan with contrast showed the mass again with evidence of enhancement (Figure 2). Doppler ultrasound showed a flow within the mass of undetermined origin. The patient had an aortic arch angiogram which showed no evidence of aneurysm in the right subclavian artery (Figure 3). The venogram was normal. A selective angiogram was repeated, and this showed that the aneurysm was supplied by a small branch of the thyrocervical trunk of the right side (Figure 4). This was selectively catheterized and embolized with coil. Almost complete obliteration of the flow was noted. A decision was then made to go for surgery through a right transverse incision, using the supraclavicular approach. A large aneurysm with a major feeder coming out of the thyrocervical trunk was double ligated and the whole aneurysm was excised. The patient did well and was discharged in good condition. Histopathology results revealed a pseudoaneurysm with an organized thrombus, without any evidence of inflammatory process or other pathological lesion.

Discussion

Aneurysms of the thyrocervical trunk are rare. There are only three reported cases in the English literature. One case presented with features of C8/TI root compression.[1] Another case of aneurysm was reported with features of vocal cord paresis. A case of pseudoaneurysm of the thyrocervical trunk as a complication of failed internal jugular venous catheterization[2] has also been reported.

The presentation in our patient was totally different from the previous reported cases. He presented with a painless mass which was gradually increasing in size. The most common cause of these aneurysms in young patients is a direct trauma or internal jugular venous

FIGURE 1. Right supraclavicular mass.

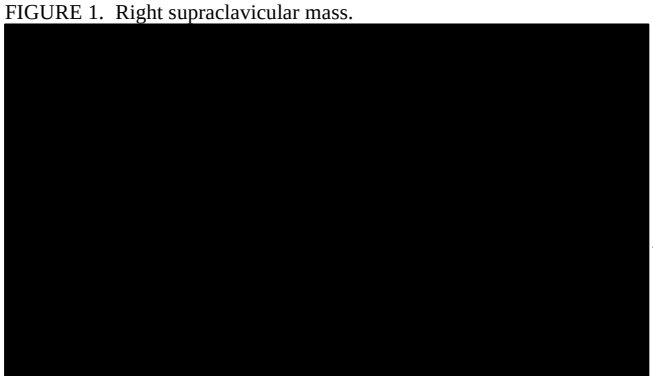

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FIGURE 2. CT scan of the neck shows the mass with evidence of enhancement.

FIGURE 3. Aortic arch angiogram (long arrow) showing the major branches as right subclavian (midsize arrow) and vertebrae and carotid artery (small arrow) but no aneurysm.

FIGURE 4. A selective angiogram of thyrocervical trunk showing the feeder artery (long arrow) to the aneurysm (small arrow).

catheterization. Other possible causes include infection, fibromuscular hyperplasia and arteritis. Atherosclerotic diseases in the vessels of the upper limb, particularly in a young patient, are uncommon. Anomalies of the right subclavian artery and its branches are unusual. Our patient denied any history of direct trauma or venous catheterization and showed no evidence of infection. To reach an accurate radiological diagnosis of these aneurysms, a selective angiogram of the subclavian artery should be done. Aortic arch angiogram failed to show the aneurysm in our patient and also failed to show the aneurysm in one of the previously reported cases in the literature.[1] In reviewing the literature and operative textbooks regarding exposure of the thyrocervical trunk and the inferior thyroid artery, it is noted that both can be exposed adequately through supraclavicular incision. Since the thyrocervical trunk is a branch of the first part of the subclavian artery, the conventional approach to the first part of the right subclavian artery is either through a median sternotomy for the right side[7,8] or through a trapdoor incision or left-sided thoracotomy for the left side.[3-6] The decision was made to perform an aneurysmotomy on our patient, in order to identify the nature and the pathology of the aneurysm.

Conclusion

Aneurysm of the thyrocervical trunk is rare but it should be kept in mind in the differential diagnosis of patients who present with pulsatile swelling in the posterior triangle of the neck, especially if it is associated with signs and symptoms of brachial plexus compression. Selective catheterization of subclavian and thyrocervical trunk is the gold standard of diagnosing. Surgical excision of the aneurysm and ligation of the proximal feeder is the best method of treatment. The supraclavicular approach is reasonably good from the anatomical point, as well as from the cosmetic point of view.[3,6,8-10]

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