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Case report Open Access

Eagle Syndrome Causing a False Aneurysm of the Internal Carotid Artery

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Abstract

Eagle syndrome is asyndrome caused by elongation of the styloïd process. It may cause recurrent throat and facial pain, foreign body sensation, otalgia, dysphagia. Vascular complications of this syndrome are rare.

We report a case of a distal located false aneurysm of the internal carotid artery caused by this syndrome and diagnosed after a cervical trauma.

Keywords: Styloïd process; False aneurysm; Internal carotid artery; Eagle syndrome

Introduction

Eagle syndrome is due to elongated styloïd process or calcification of the stylohyoid ligament. It can cause carotid aneurysm when the elongated styloïd process is in contact with the internal or the external carotid artery [1].

We report a case of false aneurysm of the internal carotid artery caused by an eagle syndrome and diagnosed after a cervical trauma.

Case Report

A 28 year-old man with no past-medical history was victim of a cervical trauma.

Neurologic examination was without anomalies.

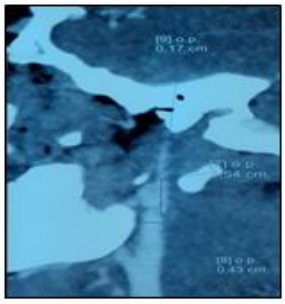

Figure 1: False aneurysm of the internal carotid artery measuring 1 cm × 1.5 cm with long styloid process.

Figure 2: CT scan showing increasing of the diameter of the false aneurysm.

Radiologic exploration showed a fracture of the maxillary sinus, and the pterygoid process.

CT scan revealed a heavily elongated styloid process on the right, and a false aneurysm of the internal carotid artery measuring 1.5 × 1 cm, and located proximally near the base of the skull, with tortuosity of the carotid artery (Figure 1).

The patient was given a diagnosis of Eagle or stylohyoid syndrome complicated by a false aneurysm of the internal carotid artery after a cervical trauma.

Because of the tortuosity of the carotid artery, endovascular repair by a covered stent wasn't possible. Surgery was also considered difficult and dangerous because of the proximal local of the distal extremity of the false aneurysm, and the necessity of accessing the base of the skull to control it.

Three months later, the patient was readmitted for increasing of the neck swelling of the neck, with a pain. Neurologic examination showed no anomalies.

Computed tomography showed an increasing of the diameters of the false aneurysm becoming 28 × 18 mm and its proximity of the styloïd process (Figures 2 and 3).

The diagnosis of Eagle syndrome revealed by a cervical trauma and causing a carotid false aneurysm was so confirmed.

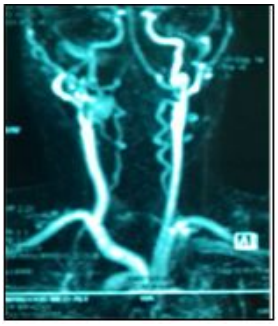

Figure 3: CT scan proximity of the styloid process.

Discussion

Eagle's syndrome was first described by Watt Eagle in 1937, the condition is caused by an elongated styloid process and/or calcification of the stylohyoid ligament [2].

It is a condition found in 4% of the general population, but symptomatic cases are much rarer [3].

Symptoms include recurrent throat pain, foreign body sensation, otalgia, dysphagia, and facial pain as a direct result of an elongated styloid process of more than 3 cm or a calcified stylohyoid ligament [4].

It can be also complicates by a false aneurysm of the carotid artery by permanent injury of the artery.

Also, it appears that proximity between the internal carotid artery and styloïd or hyoïd bone is also a risk factor for carotid dissection or aneurysm even if the processes sizes are normal [5].

The diagnosis is confirmed radiologically with computed tomography which confirms the enlargement of styloïd process [6].

Treatment is surgical excision of a portion of the styloïd process and resection of the false aneurysm. Concerning this case, the possibility of a surgical management may be discussed provided that the base of the skull is opened by neuro-surgeons.

Endovascular repair may be the best solution of these aneurysms in the forms anatomically favourable without tortuosity of the artery.

Conclusion

Eagle syndrome is a rare condition that can cause dissection or aneurysm of the carotid artery. Our case illustrates a distal located false aneurysm of the internal carotid artery caused by an elongated styloïd process, and diagnosed after a trauma.

The particularity of this case is also the difficulty of surgical and endovascular management of this false aneurysm because it's distal situation and the tortuosity of the artery.

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