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CASE REPORT

STENOSIS OF THE CAROTID ARTERY REVEALED BY FACE ISCHEMIA.

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Abstract

Face ischemia is a very rare consequence of carotid artery stenosis. We report, to our knowledge, the first case of left hemiface ischemia due to left carotid artery bifurcation stenosis. Clinical and radiological data are presented.

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Introduction:-

Ischemic stroke is the most common symptom of carotid artery stenosis. We describe through our case a rare clinical presentation of combined internal and external carotid artery stenosis.

Case report

A 65-year-old patient was admitted to intensive care unit for sudden onset right hemiplegia with cutaneous necrosis of the left hemiface. His antecedents included high blood pressure, diabetes and hypercholesterolemia.

On presentation, respiratory rate was at 35 c/min, blood pressure was 160/90 mmHg, heart rate was 120 b/min and arterial oxygen saturation, via pulse oximetry, was 91% while breathing room air. He was unconscious (7/15 at glasgow scale), pupils were equal and reactive. He also presented right pyramidal syndrome and the left carotid pulse was absent.

In addition, we noted the presence of an ischemia-necrosis of the left hemiface in the territory of the superficial temporal artery and the left maxillary artery. Ophthalmological examination revealed an ischemia of the left eyeball (Figure 1).

Over the initial 10 min, the patient was intubated and mechanically ventilated at the following settings: control-volume mode, respiratory rate 14 b/min, tidal volume 450 mL, positive end expiratory pressure (PEEP) 5 cm H₂O, inspiratory flow 40 L/min and inspiration-expiration ratio at 1 to 3.

invasive monitoring was set up via a arterial radial catheter with urinary and nasogastric tube.

Electrocardiogram was normal and chest X-ray showed a right pneumonia.

Non-injected cerebral computed tomography found left hemisphere ischemic stroke with left hemiface cutaneous and subcutaneous infiltration. Injection of the contrast agent showed complete stenosis of the left internal and

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external carotid artery, with no image of vascular supply downstream, associated with hypoplasia of the left vertebral artery and compression of the posterior cerebral artery which was sinusoidal (Figures 2). Over the next hour, the evolution was marked by the worsening of the neurological state (appearance of anisocoria) with hemodynamic instability. After administration of mannitol and norepinephrine a second cerebral CT scan was performed showing edema with cerebral involvement, leading to unrecovered cardiorespiratory arrest.

Discussion:-

Carotid artery stenosis is an important public health issue because of its frequency (5 to 10% in general population over 65 years have a carotid artery stenosis greater than 50%) and morbidity. It can complicate cerebral infarction, which can lead to death or severe disability (3rd cause of death and 1st cause of non-traumatic disability) [1]

Carotid stenosis differs according to their nature (mainly atherosclerosis), their symptomatic or asymptomatic character, their degree of stenosis and finally by their location [2]

Our case is individualized by the association of symptomatic stenosis of the two branches of the primary carotid artery associated with hypoplasia of the vertebral artery. According to our knowledge, this is the first case described in the literature.

Most of atheroma plaques are located at the cervical carotid bifurcation. The plaque most often concerns the end of the common carotid artery, the origin of the internal and the external carotid artery. The dominant symptomatology is represented by ischemic stroke.

On the other hand, stenosis of the external carotid artery is generally asymptomatic with delayed revelation because of the vascular supply [3]

In our case, the peculiarity was marked by the appearance of clinical signs of external carotid artery stenosis (ischemia of the hemiface and the eyeball) parallel to the ischemic stroke, association never described in the literature.

Otherwise, hypoplasia of the left vertebral artery, usually congenital and rarely acquired, remains asymptomatic for a long time [4]. The symptoms can be limited to headaches during intense efforts. Hypoplasia of the vertebral artery has as a consequence a fragile and sinus-like ipsilateral posterior cerebral artery, which is susceptible to compression at the slightest increase in intracranial pressure.

In our patient, stenosis of the internal carotid artery was responsible for ischemic stroke in the anterior and middle cerebral arterial vasculature, with edema compressing the posterior cerebral artery, they caused amputation of the hemisphere vascularization.

Radiologically, echodoppler is certainly the least invasive and expensive method, it simultaneously provides morphological information (degree of stenosis) and hemodynamic (increase in maximum systolic speed); however, it represents certain limits in particular when there are calcifications of the artery walls which do not allow a good visualization of the contours of the artery [5, 6]

Cerebral angiography is the standard examination with a sensitivity of 95% and a specificity of 98% for the detection of stenosis [7, 8].

The management of carotid stenosis was the subject of the publication of the US recommendations in 2011 [9] Treatment may be medical or surgical for patients with symptoms or stenosis greater than 75% (endarterectomy or angioplasty).

Our patient was out of therapeutic means given the importance of lesions, their location and especially the absence of downstream supply.

Conclusion:-

Face ischemia is a very rare consequence of carotid artery stenosis. his finding must always be reminiscent of a carotid pathology.



Figure 1: Necrosis of the hemiface and left eyeball

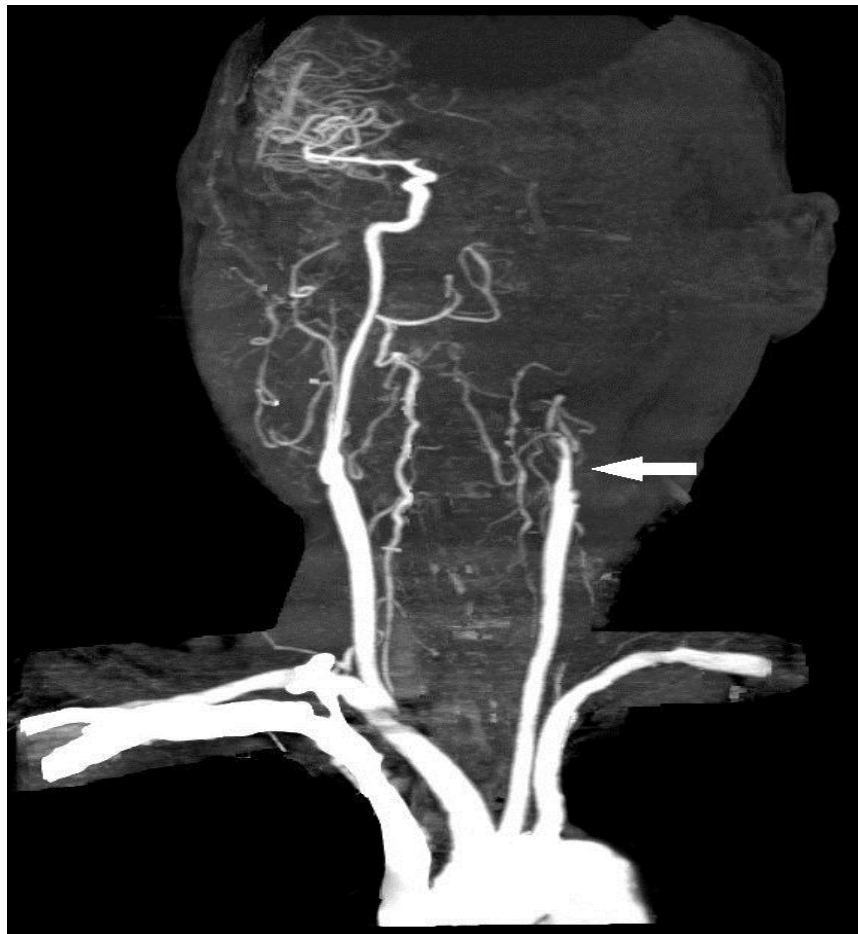


Figure 2: Complete stenosis of the left external carotid from its origin and of the left internal carotid 2cm after its birth.

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