

Aneurysm of the Extracranial Internal Carotid Artery

Shoichi HONJO, Osamu TSUJIKAWA,
Toru SEKITANI, Takashi YAMADA
and Keiko AKISADA

*Department of Otolaryngology,
Yamaguchi Medical School, Ube, Japan.*

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In the literature, we find that extracranial aneurysm of the internal carotid artery is rare. Kennedy¹ in 1834–1842, was the first to report the presence of aneurysm of the extracranial internal carotid artery. During the Dublin scarlatina epidemic, he reported three deaths from erosion of the vessels on the neck. Having observed about thousands of cases with only three hemorrhages, he remarked, "Of all parts of the neck, none appeared to me to resist the sloughing process so well as the arteries and salivary glands." This seems to be quite rare, and since only the fatal cases are reported, the comparative frequency of aneurysms of the extracranial internal carotid must be considered. Since his report, we are able to find 86 cases in reviewing the literature. In the case reported below, hemorrhage from the external auditory canal, swelling on the parotid area and a mass of the nasopharynx were present.

REPORT OF CASE

The patient, a 54 years old man, was first seen by us because of bleeding from the external ear canal on the right side and swelling on the face of the right side with facial paralysis on August 30, 1962. He gave us the following history. In the end of April the patient had suffered from redness on the submaxillar area on the right side with high fever and had been seen by a surgeon who made a diagnosis of erysipelas. One month later, he had been uneventful. On July 12 he had complained of severe ear ache and hemorrhage on the external ear canal on the right side and had been seen by an otolaryngologist. Two weeks later swelling on the submaxillar area on the right side had been present, which had become larger and extended upward until the swelling of the parotid area and the orbit on the right side associated with facial paralysis. In the end of August he had developed slight difficulty in swallowing which had caused to him have reduced his loss of body weight.

The patient had therefore been referred to us by an otolaryngologist in other city for evaluation.

The patient was admitted to our clinic on August 30. On examination, there was

some bleeding from the external ear canal through the tympanic membrane which was bulging and had a small perforation the anterior-inferior quadrant of the pars tensa with pulsating blood. There was a large soft mass 2×3 cm. blue red in color which filled in the epipharynx so that the soft palate on the right side was swollen. Both nostrils and the larynx were normal.

In the right side the face was swollen, particularly on the orbit and the parotid areas. The facial paralysis on the right side was present. The complete blood count showed normocytic normochromic anemia and neutrophilia. Coagulation time, clot retraction time, prothrombin time were normal. Blood Wassermann test was nonreactive. E. C. G. was normal. Ophthalmological consultation showed ophthalmoplegia totalis on the right side, exophthalmus 4 mm V.D=0.1 V.S.=1.5. Audiogram revealed 40 to 50 db of hearing loss on the right side averaging. The x-ray of the mastoids showed normal. Angiography of the right carotid artery showed aneurysm of the internal carotid artery on the right side about 2.5 cm. in diameter arising from just below the carotid siphon (see Fig. 1). Examination of the cerebrospinal fluid showed within normal. The x-rays of the pharynx revealed a soft tissue mass of the region of the right posterior epipharynx. A chest x-ray showed slight prominence of the hilar markings throughout both lung fields without any evidence of the aortic aneurysm.



Fig. 1. Angiography of the right carotid artery showing an aneurysm arising from just below the carotid siphon.

On Sept. 6 under local anesthesia an attempt was made to biopsy the mass on the epipharynx on the right side. A small superficial piece of tissue was removed with a punch. This was sent to the pathologist who reported fragments of tissue representing chronic pharyngitis. The same day the puncture of the mass was done, there was no fluid.

In order to prevent the bleeding from the ear canal on the right side, spongel

mashed by gelatin solution was inserted into the ear canal with good result temporarily. Blood transfusion was done almost every day after admission. The patient complained of difficulty in swallowing. From Sept. 5 to 10 the pressure on the common carotid artery on the right side was done for 10 minutes every day without decreasing the bleeding from the ear canal on the right side, the size of the mass on the epipharynx on the right side and the swelling of the neck on the right side.

On Sept. 11 under general anesthesia an incision was made on the neck of the right side at the aspect of the sternocleidomastoid muscle parallel with it from the mastoid tip to the lower border of the thyroid cartilage. The sternocleidomastoid muscle was exposed and it was retracted toward the back. There were many blood clots in the soft tissues. The internal jugular vein and the common carotid artery were identified. Upward dissection of the common carotid artery was then continued in order to expose the bifurcation. The internal and external carotid arteries were identified exactly. There was no aneurysm on the bifurcation. A heavy silk suture was placed around it just below the bifurcation. The patient developed marked edema of the neck on the right side. The patient progressed satisfactorily postoperatively. The day after the operation, Sept. 12, the bleeding from the ear canal on the right side was not present. One week later the mass on the epipharynx on the right side was decreased in size gradually. 10 days later operation the swelling on the right sided neck decreased.

On Oct. 11, the patient complained of hoarseness and difficulty in swallowing. At this time the right sided neck was swollen gradually and on Oct. 14 there was bleeding from this area, which was treated with good results temporarily. The next day again there was severe bleeding from the same area, which could not controlled, so that the patient died.

COMMENT

The symptoms of the aneurysm of the external carotid artery depend upon the etiology, usually the patient complains of a mass on the pharynx. Looking on the pharynx, we can see a mass pushing the tonsils or posterior pillar inward and toward the midline or even across the middle of the pharyngeal cavity.

According to Young², about 40 cases of bleeding from the ear in the aneurysm of the external carotid artery have been reported. The mechanism of bleeding is considered that the aneurysm may break into the lateral pharyngeal space through the parotid fascia, into the parotid space, and through the fissure of Santorini, into the external auditory canal. If the aneurysm is due to a septic process, there may be marked anemia, pyrexia, toxemia, and secondary manifestations such as torticollis, dysphagia, and dyspnea.

In treatment surgical ligation is advised.

SUMMARY

A case of aneurysm of the extracranial portion of the internal carotid artery has been presented. In this case the patient allowed treatment by surgical ligation on the common carotid artery without good results because of bleeding from the neck.

REFERENCES

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