Head and Neck Surgical Case Report
Report # 2
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Type of Surgery

Free flap reconstruction with neck exploration and orbital exenteration.

Indication

This 79 year-old female patient previously had a T3 left maxillary sinus squamous cell carcinoma. Radiation therapy was performed and MRI scan showed that there is no evidence of recurrent disease. The floor of the orbit was removed from the previous left total maxillectomy surgery and a titanium metal plate was used to support the lower orbit. Since this surgical operation, the erosion of her titanium prosthesis has a significant effect on the globe. This globe is no longer functional and there are also persistent issues with sinocutaneous fistula. In this present surgery, an orbital exenteration is performed followed by a free flap reconstruction with the graft taken from the anterolateral thigh.

Description

This 8-hour surgical procedure was performed on the patient under general anesthesia. Incision was first made around the region of the levator labii superioris alaeque nasi muscle. The facial nerve connections to the nose are thus removed, however, the rest of the zygomatic and buccal branches of the facial nerve are intact because the incision is made deep enough in order to preserve these superficial structures. The titanium metal plate was unscrewed and removed when the floor of the orbit was exposed and the whole orbit was surgically removed, including the orbicularis oculi muscle (palpebral part).

An eye-shaped graft of about 20 cm long by 8 cm wide was marked out on the thigh. With the help of a “Doppler artery tracer”, the artery of the graft in the thigh was located and after an hour and a half, this graft was cut, with one artery and 2 veins clamped. The graft was placed on the micro-table and two surgeons worked under the microscope to separate the artery from the veins to facilitate the microvascular connections in the later procedures.

In order for this graft to get its blood supply, a source of vascular connections must be located and this is achieved through neck exploration. An incision was made inferior to the mandible and the platysma is reflected to expose the submandibular gland. Nerve probe was used to test the mandibular branch of the facial nerve. The facial artery was finally located after some time and was clamped along with 2 veins.

The graft was inserted to the maxillary with the orbital already been exenterated. A few holes were drilled in the nasal septum in order to serve as anchor points for the free flap insertion. The artery and the 2 veins were fed through the submandibular region via the nasal pharyngeal space.

At this point, I had another class commitment and I had to leave the operating room. During that time, the artery and the veins of the graft were reconnected with the blood vessels in the submandibular region and with one end of the graft attached to the nasal septum and placed laterally, the face was sewn up once again.

Expected outcome

The free flap will seal off the passage to the nose so that the patient can eat. However, since the orbit has now been replaced by the graft, she cannot have any cosmetic procedure for the eye. The free flap is also in the position where the hard palate used to be. This might cause some speech problems and speech therapy might be needed for her to phonate properly.

The patient's wounds were all healed and left the hospital eight days after the surgery.