INTRODUCTION

Extensive maxillectomies, such as total and subtotal maxillectomies are performed to resect malignant and extensive benign tumors of the maxillary bone and associated soft tissues. Multiple surgical approaches have been developed to resect the maxilla over the past several decades, which include lateral rhinotomy (LR) and Weber-Ferguson extension (WFE). These approaches are still widely used despite leaving facial scars that can be unsightly. More recently, endoscopic procedures have been proposed to manage malignant tumors of the maxilla, such as the endoscopic maxillary and extended endoscopic maxillary approaches. However, these techniques can be insufficient to completely resect a large tumor of the maxilla, especially if the tumor involves the lateral, inferior or anterior wall of the maxillary sinus.

We present a surgical approach based on the combination of the endoscopic and transoral techniques, which allows extensive resection of the maxilla, offers the possibility of extending the endoscopic dissection into the infratemporal and pterygopalatine fossas, improves cosmesis, and can potentially improve hemostasis.

METHODS AND MATERIALS

Five preserved human specimens were used for anatomic dissections in accordance with institutional protocols. Karl Storz endoscopes (Tuttlingen, Germany) with 4 mm in diameter, 18 cm in length, 30°, 45° and 70° degrees lenses were used for visualization. A high-speed drill (Striker, Kalamazoo, MI, USA) with a Saber 5100-120 handpiece, microdebrider (Medtronic, Minneapolis, Minnesota), straight guarded burrs and angled diamond bit burrs were used for the bone work.

DISCUSSION

Using an endonasal endoscopic technique and an ipsilateral gingivobuccal incision, ten maxillectomies were performed in human specimens without the need of facial incisions or translocation of the nasal septum. Figures 6-10. Both total and subtotal maxillectomies were performed. The infraorbital nerve was preserved in all subtotal cases. The contents of the infratemporal fossa were dissected in all cases by endoscopic transnasal and transoral microscopic approaches (not described in technical note). The sphenopalatine and internal maxillary arteries were easily identified and clipped in all cases. Traditional techniques for total and subtotal maxillectomy are performed through lateral rhinotomy, Weber-Ferguson extension or midfacial degloving approaches. The lateral rhinotomy incision and Weber-Ferguson extension give good exposure but can leave an unsightly facial scar. These approaches allow excellent visualization and control of the anterior osteotomies, resulting in less technical challenging operations. In addition, they can facilitate reconstruction techniques (free flap pedicled) as they offer a wider exposure to the surgical defect.

REFERENCES