

# Paracaval internal carotid artery injury during endoscopic repair of cerebrospinal fluid leak: a case report and its emergency management

Lum SG<sup>1</sup>, Gendeh BS<sup>1</sup>, Husain S<sup>1</sup>, Gendeh HS<sup>1</sup>, Redzuan M2, Toh CJ<sup>3</sup>

<sup>1</sup>Department of Otorhinolaryngology – Head and Neck Surgery, Universiti Kebangsaan Malaysia Medical Centre (UKMMC), Kuala Lumpur, Malaysia, <sup>2</sup>Department of Radiology, UKMMC, Kuala Lumpur, Malaysia, <sup>3</sup>Neurosurgery Unit, Department of Surgery, UKMMC, Kuala Lumpur, Malaysia

## ABSTRACT

**Introduction:** Internal carotid artery (ICA) injury during endonasal sinus surgery (ESS) is uncommon with the incidence of 0% to 0.1%. Revision ESS is often considered to have increased risk of complications due to altered anatomy and scarring. **Report:** A 52-year-old man who had recurrent cerebrospinal fluid fistula due to encephalocele, underwent endoscopic repair under general anaesthesia. Massive haemorrhage occurred during sphenoidotomy. The surgical field was cleared with large bore suction catheter followed by immediate packing of sphenoid sinus with ribbon gauze. Urgent carotid angiography revealed injury to paracaval portion of left ICA with significant flow limitation to the left middle cerebral artery. Endovascular stent was inserted but unfortunately thrombosed within 15 minutes, and thus removed. Balloon test occlusion showed satisfactory cross flow from the contralateral right ICA and vertebral arteries to left cerebral hemisphere. Endovascular embolization of the left ICA was performed by deployment of total of 12 coils preserving the posterior communicating artery and ophthalmic artery. Angiography post coiling showed complete occlusion of the left ICA and no leakage from the injured site. Throughout the procedure, the patient's airway was secured by endotracheal intubation. Anaesthesiologist resuscitated and closely monitored the hemodynamic status to maintain optimal cerebral circulation. He had watershed cerebral infarct with right hemiparesis post-embolization but completely resolved at six weeks after intensive rehabilitation. **Conclusions:** Despite the low reported incidence, the increasing prevalence of patient undergoing ESS makes understanding of the management of ICA injury essential to otorhinolaryngologists. In the event of occurrence of this devastating complication, well-preparedness and immediate management may reduce patient's morbidity and prevent mortality. The success of the effective management of an iatrogenic ICA injury depends on the multidisciplinary team collaboration.

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# Septorhinoplasty, initial learning experience and outcomes: a preliminary report

Intan Kartika Kamarudin<sup>1,2</sup>, Aneesa Khairiyah Wan Hamizan<sup>1</sup>, Farah Dayana Zahedi<sup>1</sup>, Salina Husain<sup>1</sup>, Balwant Singh Gendeh<sup>1</sup>

<sup>1</sup>Department of Otorhinolaryngology, Head & Neck Surgery, Faculty of Medicine, Universiti Teknologi Mara, Selangor, Malaysia, <sup>2</sup>Department of Otorhinolaryngology, Head & Neck Surgery, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

## ABSTRACT

**Introduction:** Autologous grafts are accepted as gold standard for use in septorhinoplasty and had been shown to be superior to alloplastic grafts. The autologous costal cartilage graft is considered a versatile choice for Asian noses which mostly required augmentation rhinoplasty and a substantial amount of cartilage to achieve best aesthetic results. **Objective:** This study described the outcomes and complications in our centre's early experience of using the autologous costal cartilage in septorhinoplasty. **Methods:** We retrospectively reviewed all patients with functional and/or aesthetic nasal problem who had undergone open septorhinoplasty using the costal cartilage graft in the Otorhinolaryngology Department at Universiti Kebangsaan Malaysia Medical Centre (UKMMC), Kuala Lumpur between August 2009 and November 2011. There were 26 patients, consisting of 15 males and 11 females from different Malaysian and Asian ethnic groups. The mean age was 27.5 years with range from 15 to 49 years. **Results:** The functional and aesthetic outcomes were comparable to previous studies using autologous costal cartilage graft with more than 70% postoperative patients' satisfaction. The complications encountered in this study were due to infection, warping and exposure of cartilage. **Conclusion:** Judicious selection of patients and operative techniques is important in the use of costal cartilage graft in septorhinoplasty with possibility of complication in mind.