Carotid Blowout Syndrome: EC-IC Bypass and Endovascular Management of Ruptured Radiation-related Pseudoaneurym in Nasopharyngeal Cancer Patients

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Purpose:
With prolonged survival in nasopharyngeal cancer patients treated with radiation therapy, delayed vascular complication such as carotid blowout due to ruptured pseudoaneurysm has emerged as an not infrequent and often fatal clinical emergency. Management of carotid blowout syndrome in these patients is challenging and controversial, including endovascular flow-diverting stents, coiling, balloon occlusion, and EC-IC bypass; alone or in combination. We review our experience of treating carotid blowout syndrome and discuss on different management strategies.

Methods:
All patients presenting with ruptured carotid pseudoaneurysm to our center with a history of nasopharyngeal cancer and previously treated with radiotherapy were reviewed. Medical records, imaging including angiogram, operation records and follow-up clinical notes were analysed. Information on previous radiation therapy regimen were traced whenever possible. Outcome in terms of hemostasis, complication, neurological morbidity and mortality of patients treated with different approaches were compared.

Results:
20 patients were treated for ruptured carotid pseudoaneurysms in the past decade. 8 were treated primarily with EC-IC bypass, 12 with endovascular approaches. 3 patients received sequential endovascular treatment and subsequently bypass. Further analysis is in progress and will be available at the time of presentation.

Conclusions:
Ruptured carotid pseudoaneurysm carries a high mortality if not recognized and treated immediately. Emergency operation can result in successful hemostasis and possible long term survival. Neurological morbidity is a recognized complication of endovascular treatment options. Further analysis is in progress and will be available at the time of presentation.