Spontaneously enlarging pulsatile cervical mass

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Acute spontaneous rupture of unstable carotid plaque with airway compromise is an immediate life-threatening event. We have described a ruptured internal carotid artery requiring emergent intervention with successful stroke-free survival. The patient provided written informed consent for the report of his case details and imaging studies.

An 81-year-old man with uncontrolled hypertension, diabetes, and hyperlipidemia had presented to the emergency room with a rapidly enlarging left neck mass and dyspnea. He stated that he had felt a small "pop" in his neck earlier in the day. He denied any recent trauma, diabetes, dental work, and infections in the previous 6 months. Emergent computed tomography angiography confirmed an 8.9 × 5.9 × 4.8-cm pseudoaneurysm of his left internal carotid artery with contrast extravasation (*A*). After airway stabilization, cerebral angiography demonstrated a ruptured left internal carotid artery. After crossing the lesion, a distal SpiderFX 5-mm embolic protection device (Medtronic, Minneapolis, MN) was deployed. Once the filter had been safely deployed, concurrent 5-mm × 5-cm, followed by 7-mm × 5-cm, Viabahn stents (W. L. Gore & Associates, Flagstaff, AZ) were deployed with confirmed sealing and without distal embolic events (*B*/Cover). Immediate operative decompression confirmed ruptured plaque within the aneurysmal sac (*C*). After debridement, the wound was cultured, irrigated, and closed. The intraoperative cultures were negative for any infectious organisms. The patient started aspirin 81 mg and clopidogrel 75 mg daily. His postoperative course was uncomplicated, and he was discharged on postoperative day 3. At the last follow-up, he remained without stroke or neurologic events with resolution of all symptoms.

The early identification of ulcerated plaque is important to for preventive screening and treatment of extracranial carotid disease. The factors for stabilization of carotid plaque include strict control of hyperlipidemia, hypertension, and diabetes.[1] At an elevated hemoglobin A1c of >7.0%, the fibrous cap will begin to thin, signifying plaque instability, which can lead to rupture.[1,2] Similar findings have been noted with elevated cholesterol and triglyceride levels.[2] The present patient's lack of medical compliance contributed to his surgical emergency.

In the current endovascular era, stent grafting has become a vital tool for treating complex carotid pathology. However, the use of covered stent grafts has been rarely reported. Choi et al,[3] in 2018, demonstrated 100% technical success with ruptured carotid disease. However, their lack of follow-up failed to document the long-term outcomes when treatment has been performed by no-vascular specialists. At 1 year of follow-up, our stroke-free patient demonstrated a patent carotid stent without hemodynamic stenosis (*D*).

The present case highlights the importance of preventive carotid artery disease surveillance. Duplex ultrasound can provide early warning signs of complex carotid plaque that might require earlier intervention to avoid catastrophic events. It is vital that the interventionalist have experience with both open and endovascular techniques to treat this surgical emergency.

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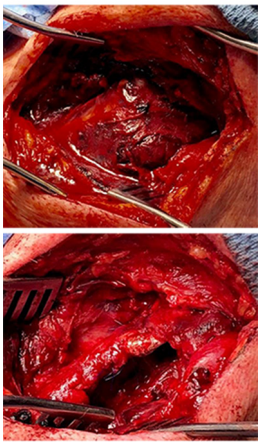

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