

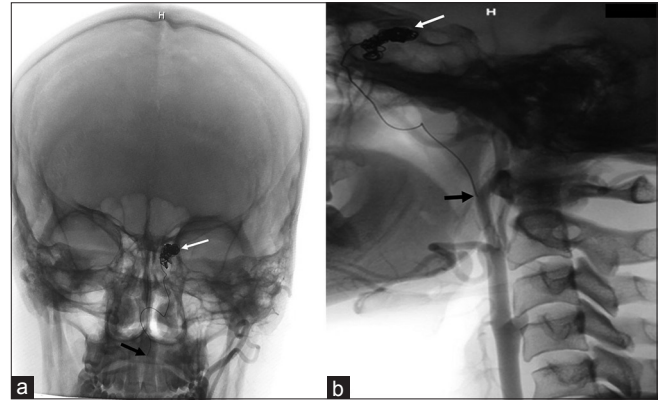
# Delayed migration of coil into the nasopharynx following embolization of internal carotid artery pseudoaneurysm: A rare complication

Sir,

The incidence of traumatic internal carotid artery (ICA) pseudoaneurysm is rare<sup>[1]</sup> and migration of coil is even rarer after coil embolization of carotid pseudoaneurysm.<sup>[2]</sup> We report an interesting and unusual case of delayed Guglielmi detachable coil (GDC) extrusion in the nasopharynx following ICA dissecting pseudoaneurysm coil embolization.

A 25-year-male patient presented to us in the pre-operative assessment clinic with the complaints of continuous irritation in throat and repeated episodes of nausea and vomiting. He was a follow-up case of ICA pseudoaneurysm that was coiled 1½ years back and was now scheduled for check digital subtraction angiography (DSA) under monitored anesthesia care. His history revealed that he had a history of fall from height following which he had repeated episode of epistaxis and gradual diminution of vision over the past 3 months. At that time, nasal packing was done to achieve hemostasis. Neurological examination revealed no neurological deficits. Cerebral DSA was performed which showed dissecting pseudoaneurysm involving anterior genu of cavernous segment of left ICA with pseudobulb 13.5 mm × 6.5 mm × 7 mm, projecting anteriorly and medially into sphenoid sinus and tight stenosis in the left ICA at the ophthalmic segment level. Endovascular treatment by coiling of dissecting pseudoaneurysm was done and complete occlusion was achieved. Nasal bleeding stopped and nasal pack were removed on the 3<sup>rd</sup> day. Patient was advised for regular follow up and DSA done 6 months later showed no aneurysmal filling. However, after 1½ years, patient now came with continuous irritation in throat and repeated episodes of nausea and vomiting. DSA was repeated that revealed complete occlusion of the left ICA with no residual left ICA pseudoaneurysm. However, a single GDC loop end was seen protruding through the ethmoidal air cells into the nasopharynx as shown in Figure 1a and b. The GDC coil protruding into the nasopharynx was later removed by cutting the migrated end of GDC at ethmoid level. Following this, the patient became asymptomatic and was discharged with advice for regular follow up.

Pseudoaneurysm is formed due to breach in arterial wall so that blood escapes through the arterial wall but is enclosed within adventitia or surrounding perivascular soft tissue. Here,



**Figure 1:** Digital subtraction angiography showing migration of one end of Guglielmi detachable coil into the nasopharynx. White arrow shows Guglielmi detachable coil occluding the internal carotid artery pseudoaneurysm and black arrow shows the migrated end of the Guglielmi detachable coil in the nasopharynx. (a) Anteroposterior view (b) lateral view

the risk of rupture is more than true aneurysm of comparable size due to poor support of aneurysmal wall. Now-a-days endovascular stenting and coiling is a common and standard treatment modality for carotid artery pseudoaneurysm.<sup>[3]</sup> GDC are commonly used which are made up of platinum, are soft and of fine caliber, hence has a poor coil memory. These properties of GDC make it prone for uncoiling.<sup>[4]</sup>

Potential complications of coiling include thrombosis, stenosis, and less commonly, coil extrusion due to continuous forces pressing opposite the thin pseudoaneurysm capsule.<sup>[5]</sup> In this case, perivascular hematoma was present around dissecting pseudoaneurysm of cavernous segment of left ICA. Although successful coiling was done, as the surrounding hematoma slowly resolved over a period, coil became loose and partial decoiling occurred due to poor confinement of the coil. This led to one end of the coil to get dislodged and migrate to nasopharynx through the ethmoid air cells. This case highlight a rare but possible complication of coil migration following embolization of cavernous segment of ICA pseudoaneurysm and possibility of such complication should also be borne in mind if the patient with history of endovascular embolization presents with similar symptoms.

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## Conflicts of interest

There are no conflicts of interest.

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## References

1. Quintana F, Diez C, Gutierrez A, Diez ML, Austin O, Vazquez A. Traumatic aneurysm of the basilar artery. *AJNR Am J Neuroradiol* 1996;17:283-5.
2. Struffert T, Buhk JH, Buchfelder M, Rohde V, Doerfler A, Knauth M. Coil migration after endovascular coil occlusion of internal carotid artery pseudoaneurysms within the sphenoid sinus. *Minim Invasive Neurosurg* 2009;52:89-92.
3. Zhang CW, Xie XD, You C, Mao BY, Wang CH, He M, *et al.* Endovascular treatment of traumatic pseudoaneurysm presenting as intractable epistaxis. *Korean J Radiol* 2010;11:603-11.
4. Chow MW, Chan DT, Boet R, Poon WS, Sung JK, Yu SC. Extrusion of a coil from the internal carotid artery through the middle ear. *Hong Kong Med J* 2004;10:215-6.
5. Li Z, Chang G, Yao C, Guo L, Liu Y, Wang M, *et al.* Endovascular

stenting of extracranial carotid artery aneurysm: A systematic review. *Eur J Vasc Endovasc Surg* 2011;42:419-26.

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