



Letter to the Editor

If an elongated styloid process causes a dissecting internal carotid artery aneurysm, surgical resection is indicated

Josef Finsterer

Department of Neurology, Neurology and Neurophysiology Centre (NNC), Vienna, Austria.

E-mail: *Josef Finsterer - ffigs1@yahoo.de

***Corresponding author:**

Josef Finsterer,
Department of Neurology,
Neurology and
Neurophysiology Centre
(NNC), Vienna, Austria.
ffigs1@yahoo.de

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Dear Editor,

We read with interest the article by Izutsu *et al.*, about a 60-year-old man who developed acute neck pain, dysphagia, hoarseness, and tongue deviation to the left after turning his head to the right and who subsequently developed a dissecting aneurysm (DA) of the left extracranial internal carotid artery (ICA).^[2] The development of the DA was attributed to an elongated left styloid process.^[2] Conservative treatment with therapeutic heparin (for 1 week) and dual antiplatelet therapy with acetylsalicylic acid and clopidogrel (for 4 weeks) was ineffective, so the patient underwent elective stenting of the left ICA with a flow diverter stent (FDS), resulting in almost complete resolution of symptoms and recovery.^[2] The study is impressive, but some points require further discussion.

The first point is that the impairment of the lower cranial nerves in patients with DA of the ICA may not be explained only by the impairment of the lower cranial nerves IX, X, and XII through direct contact with the aneurysm or occlusion of nutrient arteries.^[2] Impairment of the lower cranial nerve can also be explained by insufficient perfusion of the basilar artery through both vertebral arteries or through the circle of Willis in case of retrograde filling. Therefore, we should know whether the vertebral arteries were orthogradely perfused or whether they were stenotic or occluded on carotid ultrasound. Did the patient have subclavian steal syndrome? Was the carotid ultrasound normal, or were there morphological or functional abnormalities?

The second point relates to the outcome of the FDS placement. It is stated that the patient “improved remarkable” immediately after the procedure.^[2] However, it does not specify which symptoms improved. The patient was admitted with neck pain, hoarseness, difficulty swallowing, and tongue deviation. Which of these symptoms improved or disappeared completely, and which persisted?

The third point is that it is not understandable why the elongated styloid process was not resected since it was considered responsible for the development of DA. Long styloid processes have been described before as the cause of an ICA aneurysm (Eagle syndrome)^[1] and in some of these patients, resection of the elongated styloid process was beneficial^[4] or prevented the recurrence of the aneurysm.^[3]

A fourth point is that it was not stated how many days before admission the symptoms began. Did the patient experience neck pain, difficulty swallowing, tongue deviation, and hoarseness the day before admission or earlier?

A fifth point is that some essential information is missing. What is the reason why digital subtraction angiography and magnetic resonance angiogram were not performed under a provocative posture

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with a head rotation to the right? It may have been diagnostic to document the narrowing of the ICA diameter on rightward head rotation. Since cranial nerves IX and X were affected, dysarthria would be expected. Did the patient also have a speech disorder? No explanation was given for the pain in the neck. Was the initial neck pain due to the DA or other causes? Current medication is also missing. Although the patient was reported as free of pre-existing medical conditions, we should know whether he was taking medication regularly.

In summary, the interesting study has limitations that put the results and their interpretation into perspective. Clarifying these weaknesses would strengthen the conclusions and could improve the study. If the DA of the extracranial ICA is due to an elongated styloid process, removal of the abnormal structure should be considered.

Availability of data and material

All data are available from the corresponding author.

Author's contributions

JF was responsible for the design and conception, discussed available data with coauthors, wrote the first draft, and

gave final approval. SM: contributed to literature search, discussion, correction, and final approval.

REFERENCES

1. Hayashi S, Kumai T, Kishibe K, Takahara M, Katada A, Hayashi T. Internal carotid artery dissection caused by elongated styloid process. *Auris Nasus Larynx* 2023;50:968-72.
2. Izutsu N, Nishizawa N, Nakajima S, Kanemura Y, Ozaki T, Asai K, *et al.* Extracranial internal carotid artery-dissecting aneurysm having a re-entry tear and causing lower cranial nerve palsies treated with flow-diverting stent: A case report. *Surg Neurol Int* 2024;15:126.
3. Ogura T, Mineharu Y, Todo K, Kohara N, Sakai N. Carotid artery dissection caused by an elongated styloid process: Three case reports and review of the literature. *NMC Case Rep J* 2014;2:21-5.
4. Sveinsson O, Kostulas N, Herrman L. Internal carotid dissection caused by an elongated styloid process (Eagle syndrome). *BMJ Case Rep* 2013;2013:bcr2013009878.

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