



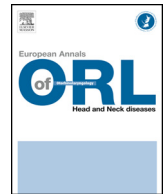
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Letter to the editor

Hide and seek epistaxis after COVID-19 infection



Dear Editor in Chief,

This letter describes an anatomical variant of the descending palatine artery (DPA), which has never been described before and may mislead surgeons faced with the surgical hemostasis of an epistaxis.

1. Case report

We hereby present the intriguing case of a 56-year-old man suffering from recurrent left-side epistaxis occurring one week after his hospitalization for COVID-19 pneumonia.

A 56-year-old male patient was admitted to the emergency department with left-side epistaxis. He required nasal packing with Merocel twice, until he was admitted to ENT department due to persistent bleeding and anaemia (Hb 8 g/dl).

The patient's recent medical history included a hospitalization of one week for COVID-19 pneumonia. During his hospital stay, he required oxygen therapy via a low-flow nasal cannula and low-molecular-weight heparin (LMWH), both of which are known to facilitate nosebleeds [1,2].

During the first admission to the ENT, the patient was transfused to bring his haemoglobin values back into range. On removal of the nasal tampons, however, he started bleeding again from the left nasal fossa. He therefore underwent the angiographic procedure of embolization of the left internal maxillary artery. After 3 days, the patient was discharged with no evidence of bleeding.

Four days later, the patient was readmitted in ENT department for recurrence of epistaxis from the left nasal fossa. An urgent selective angiographic procedure with carotid study was performed. And the real culprit was finally discovered: an unusual anastomosis between one terminal branch of the right descending palatine artery (DPA) with the sphenopalatine artery of the contralateral side (Fig. 1).

Therefore, the patient underwent endoscopic cauterization of the terminal branch of the right DPA with complete cessation of bleeding. Then he was discharged and to date, after more than three months, has not presented any epistaxis.

2. Discussion

The DPA originates from the internal maxillary artery (IMA) in the pterygopalatine fossa and participates in the vascularization of the maxilla, hard and soft palate. Different variation has been described in patient anatomy. In most cases (95%) the short DPA splits into the greater and lesser palatine arteries at the end of the pterygopalatine canal [3]. In the remaining cases, the DPA presents

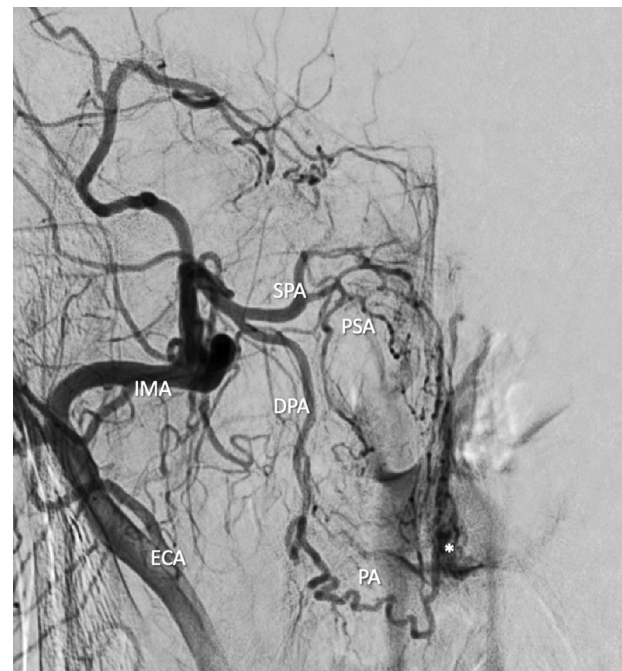


Fig. 1. Selective angiography of external carotid artery. It is highlighted an anastomosis between a palatine artery, one terminal branch of the right descending palatine artery, and the terminal branch of the sphenopalatine artery (posterior septal artery) of the contralateral side. ECA: external carotid artery; IMA: internal maxillary artery; DPA: descending palatine artery; SPA: sphenopalatine artery; PSA: posterior septal artery; PA: palatine artery; *: anastomosis.

as a single artery or more than two branches [4]. When multiple branches compose the DPA, a branch crosses the lateral wing of the pterygoid process and it consistently displays an anastomosis with the terminal branch of the SPA through the incisive foramen [4].

In the case described above, one of the terminal branches of DPA, a palatine artery (PA), creates anastomosis also with the terminal branch of posterior septal artery (PSA) of SPA of the contralateral side (Fig. 2). Thus, the left-side epistaxis is caused by the bleeding of one terminal branch of the right DPA.

The importance of possible anastomoses across the midline must not be overlooked. Indeed, as reported by Mostafa et al. [5], cross-circulation from the contralateral maxillary artery may cause recurrent bleeding. In their study, there was cross-circulation across nasal supplying branches of the IMA in 19% of cases.

To date, few studies have examined variability in the DPA, and, to our knowledge, this is the first described case of an anastomosis of the DPA that crosses the midline.

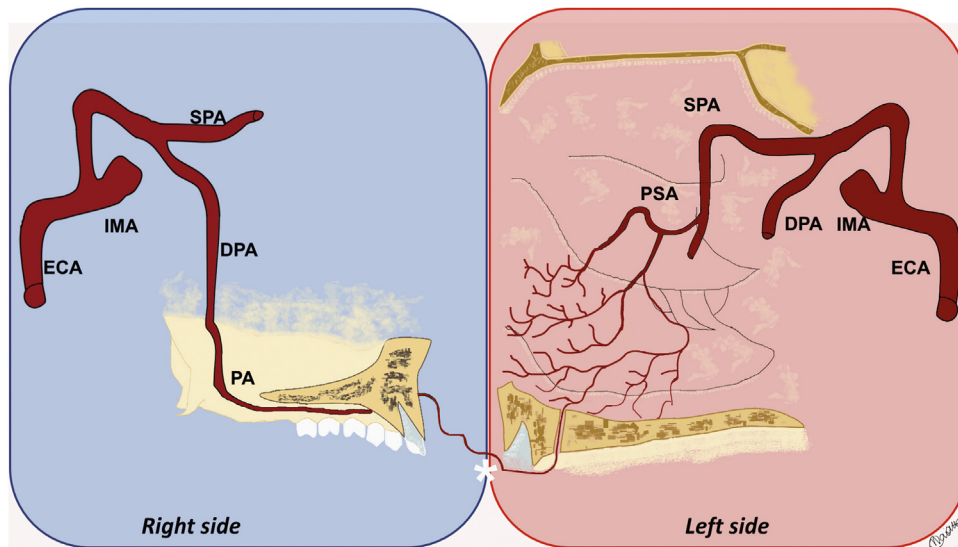


Fig. 2. Drawing of the anastomosis. It's illustrated and outlined how a terminal branch of right palatine artery (that derives from the descending palatine artery) makes anastomosis with a terminal branch of posterior septal artery (resulting from the sphenopalatine artery) of the contralateral side. ECA: external carotid artery; IMA: internal maxillary artery; DPA: descending palatine artery; SPA: sphenopalatine artery; PSA: posterior septal artery; PA: palatine artery; *: anastomosis.

To conclude, the moral of the story is: watch out for the nose-bleed side, anatomical variations are always ready to confuse us!

Disclosure of interest

The authors declare that they have no competing interest.

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