Lobular capillary haemangioma of
the nasal cavity

Clinical History:
A 25-year-old female patient presented with repeated mild nasal bleeding from the right nostril. There was no history of massive nasal bleeding, headache or running nose.

Imaging Findings:
Plain CT of paranasal sinuses showed a well-defined lobulated soft tissue density lesion in the right anterior nasal cavity. The lesion was attached to the inferior turbinate and nasal septum. The lesion caused displacement of the nasal septum, inferior turbinate and middle turbinate. There was no septal or turbinate erosion. The average density of the lesion was around 32 HU. Bilateral mild mucosal thickening with fluid in the maxillary sinuses could be shown. On post-contrast imaging, there was intense enhancement of the lesion in the arterial and venous phase. The average density of the lesion was around 280 HU in the arterial phase. There were few non-enhancing areas in the central part and peripheral rim of the lesion. In the venous phase, there was progressive filling of the lesion and enhancement of previously non-enhancing areas. No large feeding artery or large draining vein was detected. On histopathology slides, there were multiple capillaries arranged in lobules surrounded by fibrous tissue.

Discussion:
Lobular capillary haemangioma of the nasal cavity is a benign lesion of unknown aetiology. It is an uncommon lesion of the nasal cavity. It is also called a “pyogenic granuloma”. This is a misnomer because it is neither an infective nor a granulomatous lesion. Most commonly it occurs in women in the third and fourth decade. The aetiology of the lesion is not clearly defined but some authors say it is due to repeated trauma in the anterior nasal cavity or it occurs mostly in pregnancy due to hormonal influence. [1, 2]

It is most often found in the anterior part of the nasal cavity, frequently in the anterior part of the nasal septum (Little’s area) and tip of turbinates because these areas are more prone to repeated trauma. [1, 2]
The patient presented with nasal bleeding. It appeared as a red to purple mass on endoscopy. [1]
Pathologically, it showed multiple variable-sized capillaries in lobular arrangement surrounded by fibrous tissue. The differential diagnosis for this type of lesion is haemangiopericytoma and angiosarcoma. [1]
On plain CT, it appears as a soft tissue density lesion. On post contrast study, it shows intense enhancement in the
central part and hypodense cap surrounding it and on delayed scan, it becomes progressively denser showing the
typical pattern of other haemangiomas. It frequently causes bony erosion or displacement of the adjacent septum or
turbinates. MRI with post gadolinium T1 images show the same findings as CT. On pre-contrast T1 images, it
appears as a hypo to isointense lesion and on T2 images, it appears as a hyperintense lesion. DSA is required to
identify the feeder artery of haemangioma and draining veins. DSA shows capillary blush on selective angiogram. [2]
Management for haemangioma is resection, which is often curative with a lower risk of recurrence. Intraoperative
bleeding from large lesions is a major complication. [1]
Teaching point: Imaging is required to differentiate it mainly from inverted papilloma and other anterior nasal masses.

**Differential Diagnosis List:** Lobular capillary haemangioma of the right nasal cavity, Inverted papilloma,
Haemangiopericytoma

**Final Diagnosis:** Lobular capillary haemangioma of the right nasal cavity

**References:**

Otolaryngology - Head and Neck Surgery vol. 120 no. 5 783-784 (PMID: 10229617)
2010 31: 749-754 (PMID: 20007721)
Figure 1

Description: Histology image of the lesion shows multiple capillaries in lobule with surrounding fibrous cells. Origin: sanya diagnostics, rajkot civil hospital, rajkot, gujarat, india
Description: On zoom image capillaries are clearly seen. Origin: sanya diagnostics, rajkot civil hospital, rajkot, gujarat, india
Description: Coronal image shows a well-defined lobulated soft tissue density lesion in the right anterior nasal cavity. The lesion is attached to the inferior turbinate and nasal septum. Average density of the lesion is around 32 HU. Origin: Sanya Diagnostics, Rajkot Civil Hospital, Rajkot, Gujarat, India
**Description:** Axial image showing that the lesion causes displacement of the nasal septum and inferior turbinate. There is mild mucosal thickening and some fluid in the maxillary sinuses. **Origin:** Sanya Diagnostics, Rajkot Civil Hospital, Rajkot, Gujarat, India
**Description:** In the coronal image an intense enhancement of the lesion in the arterial phase can be seen. Average density of the lesion is around 280 HU. **Origin:** Sanya Diagnostics, Rajkot Civil Hospital, Rajkot, Gujarat, India.
**Description:** Axial image shows intense enhancement of the lesion and there are a few non-enhancing areas in the central part and peripheral rim of the lesion. **Origin:** Sanya Diagnostics, Rajkot Civil Hospital, Rajkot, Gujarat, India
Description: In the sagittal image the lesion is noted within the anterior part of the nasal cavity. Origin: Sanya Diagnostics, Rajkot Civil Hospital, Rajkot, Gujarat, India
**Description:** Volume rendering (VR) image shows a lobulated enhancing lesion in the right nasal cavity.

**Origin:** Sanya Diagnostics, Rajkot Civil Hospital, Rajkot, Gujarat, India
Description: On bone window there is no septal erosion or turbinate erosion. Origin: Sanya Diagnostics, Rajkot Civil Hospital, Rajkot, Gujarat, India
Description: On axial image of the arterial phase, the central part of the lesion shows around 101 HU.
Origin: Sanya Diagnostics, Rajkot Civil Hospital, Rajkot, Gujarat, India
Description: On axial image of the venous phase, the same area of the lesion shows around 131 HU and suggests progressive filled in enhancement. Origin: Sanya Diagnostics, Rajkot Civil Hospital, Rajkot, Gujarat, India
Description: On coronal image, the lesion shows progressive enhancement in the central part and peripheral part. Origin: Sanya Diagnostics, Rajkot Civil Hospital, Rajkot, Gujarat, India
Description: On axial image, the lesion shows progressive filled in enhancement. Origin: Sanya Diagnostics, Rajkot Civil Hospital, Rajkot, Gujarat, India