Multiple myeloma (MM) is a subtype of hematological malignancy, specifically of plasma cells which are white blood cells responsible for producing antibodies. One of the ENT manifestations of MM that has been described is recurrent epistaxis. The thus far proposed pathophysiologies for this include thrombocytopenia, abnormal proteins which interfere with plasma clotting factors, as well as amyloid deposition. However, there have been no vascular sino-nasal mucosal abnormalities described, to date.

In this case report, we present two cases of patients with multiple myeloma, with similar sino-nasal mucosal abnormalities, having presented with recurrent epistaxis.

**Case reports**

**Patient A**
A 51 year-old Chinese female, first presented to ENT in March 2018 with occasional blood-stained nasal secretions of 2 years’ duration. Estimated blood loss was 1 spoonful, everyday. She was known to have Smoldering MM since 2014, and this had recently progressed to active MM with anemia in Jan 2018.

Initial naso-endoscopic examination revealed the following significant findings:

- **Widespread areas of raw, granular mucosa (Fig 1)**

Biopsy of this raw granular mucosa revealed non-specific moderate to severe acute on chronic inflammation with significant areas of ulceration and focal granulation tissue formation. There was no vasculitic changes, granulomas or malignant tumor identified. Other investigations (coagulopathy, CT sinus, autoimmune and granulomatous workup) all returned negative.

She commenced chemotherapy with Velcade a few weeks after this first ENT consult of hers, for her recently active MM. Two weeks after initiation of chemotherapy, her epistaxis has significantly reduced and repeat naso-endoscopy found that her generalized areas of raw, granular mucosa had reduced significantly.

She completed 4 cycles of Velcade, and subsequently underwent autologous stem cell transplant in Dec 2018. An ENT review 3 months later also confirmed resolution of both her epistaxis and the abnormal looking sinonasal mucosa (Fig 2).

**Patient B**
A 75 year-old Chinese male first presented to ENT in April 2018 for blood-stained nasal secretions of 4 months’ duration.

Initial naso-endoscopic examination revealed the following significant findings:

- **Petechiae scattered over his right middle turbinate (Fig 3) and bilateral Little’s area (Fig 4)**

Biopsy of his right middle turbinate mucosa revealed similar histological findings as in Patient A above, with in situ hybridization performed and no light chain restriction pattern seen in the plasma cell population. Coagulopathy, autoimmune and granulomatous workup also returned negative.

While being monitored by ENT, the patient was subsequently diagnosed with Smoldering MM six months later.

**Discussion**

The two patients described presented with recurrent epistaxis due to unusual vascular nasal mucosa lesions, on a background of MM.

Many mechanisms have been postulated to account for recurrent epistaxis seen in MM. These include: coagulation disorders of both primary and secondary hemorrhosis, protein precipitation on blood vessel walls (1), and amyloid accumulation causing tissue injury (2).

However, there have been no MM-associated vascular mucosal abnormalities described to date, except in the eye, where dilated veins and flame shaped hemorrhages have been observed. These ophthalmic vascular abnormalities have been attributed to the hyperviscosity syndrome (3-4), of which plasma cell dyscrasia is just one of many causes, rather than a specific pathophysiology of MM itself.

In our two patients with MM, they had very unusual vascular mucosal lesions seen on naso-endoscopic examination. These ranged from scattered punctate petechiae, to raw granular mucosa. Histology of these lesions revealed only non-specific acute on chronic inflammation with significant areas of ulceration.

Of note, the one patient who underwent treatment for her MM showed complete resolution of her vascular mucosal abnormality suggesting that these lesions are directly related to MM.

**Conclusion**

We describe two patients with MM who presented with recurrent epistaxis due to unusual vascular nasal mucosa lesions. Therefore, ENT surgeons may want to consider the possible diagnosis of MM when such lesions are encountered.