



## LETTER TO THE EDITOR

## Epistaxies from a Pyogenic Granuloma of Nasal Septum



Nasal bleeding is a common feature of diverse clinical conditions. It may present as mild recurrent bleeding or as a severe life-threatening emergency, and poses a challenge even to senior otolaryngologists because the majority of cases signal rare obvious etiological factors apart from the common known factors: trauma, infections, and tumors.<sup>1–3</sup> Traditionally, clinical cases of epistaxis are distinguished between local and systemic causes. More recent classifications of epistaxis can be used to differentiate between primary or secondary, childhood or adult, and anterior or posterior.<sup>4–6</sup> We report a case of nasal bleeding as a main complaint, and a pyogenic granuloma of the nasal septum that was finally diagnosed using pathological examination although pyogenic granulomas more commonly occur in the skin or mucous membranes owing to angiomatous proliferation.

A male adult patient, who used to be robust, began to experience intermittent right nasal bleeding that started 2 months prior to his admission. He visited a local clinic, and a small tumor over the right nasal cavity was noted during examination. He was referred to our hospital, seeking a more thorough investigation and advanced management of his condition. The lesion was painless. Upon admission, his physical examination showed a light deviation of mild septum to the right side and mild hypertrophy of both inferior turbinates. Furthermore, a smooth exophytic tumor mass of about 0.6 cm × 1.2 cm was found over the right side of the septum (Figure 1). Further physical examination revealed no other abnormalities, and there was no cervical lymphadenopathy. The overlying squamous epithelium was eroded. The aforementioned features were consistent with a pyogenic granuloma (Figure 2). Microscopically, pathological section revealed a nodular tissue fragment composed of edematous fibrous tissue with lobular proliferation of capillaries. A diagnosis of pyogenic granuloma was supported by the pathological report. The identified nasal tumor was rapidly subjected to endoscopic excision. Follow-up via the regular outpatient clinic for 3 months has indicated no recurrent phenomenon. The postoperative course was uneventful, and the epistaxis was cured.

The nasal mucosa is richly supplied by branches of both external and internal carotid arteries with abundant anastomoses. Although bleeding is more severe among patients with hypertension, usually there is no causal relationship between hypertension and epistaxis. The Kiesselbachs plexus is responsible for 85%–95% of anterior epistaxis, which is apparent and easily cured.<sup>1–3</sup> With a committed search, doctors in general are able to find the real cause of epistaxis in these patients.<sup>4–6</sup>

Pyogenic granuloma is a common angiomatous proliferation that occurs in the skin or mucous membranes, such as those found

in the oral mucosa or on the trunk or limbs.<sup>7–11</sup> The term “pyogenic granuloma” is a misnomer because the lesion does not contain pus and is not—strictly speaking—a granuloma. It often presents as a painless, pedunculated, or sessile mass of mucosa or skin. Many reports describe that it is composed of simple granulation tissue and conclude that pyogenic granuloma is a nonspecific capillary reaction that result from repeated trauma or irritation.<sup>7–9</sup> Others have suggested that pyogenic granuloma is a capillary hemangioma, but have not delineated its specific morphology. Pyogenic granulomas are locally limited and lobular, as in the case we reported. They usually arise in response to various stimuli such as low-grade local irritation, traumatic injury, hormonal factors, or adverse effects of certain kinds of drugs. However, their etiology has never been definitively established. Our patient denied any trauma or local irritation of his nose. Minor traumas or underlying cutaneous diseases could cause an excessive local production of angiogenic growth factors or cytokines, which could be an important factor in the pathogenesis of pyogenic granuloma.<sup>7,11</sup> According to reports, minor trauma related to zipper accidents, sexual intercourse, and circumcision has been implicated as an important role in the etiology of pyogenic granuloma of the male genitalia.<sup>7–9</sup> There was a study in which estrogen and progesterone receptor activity has been shown in mucosal pyogenic granuloma. However, in a case of cutaneous pyogenic granuloma during pregnancy and in a study of 21 cutaneous pyogenic granulomas reported by Mussalli et al.<sup>8</sup> and Nichols et al.,<sup>9</sup> estrogen and progesterone receptors are found to be negative. In another study, the prevalence of cutaneous pyogenic granuloma was found to be parallel in both sexes, and the researchers concluded that estrogen had no effect on the development of cutaneous pyogenic granuloma.<sup>10</sup> As seen from these reports, cutaneous pyogenic granulomas are not associated with

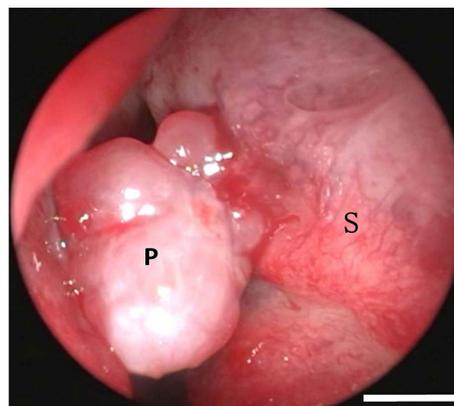
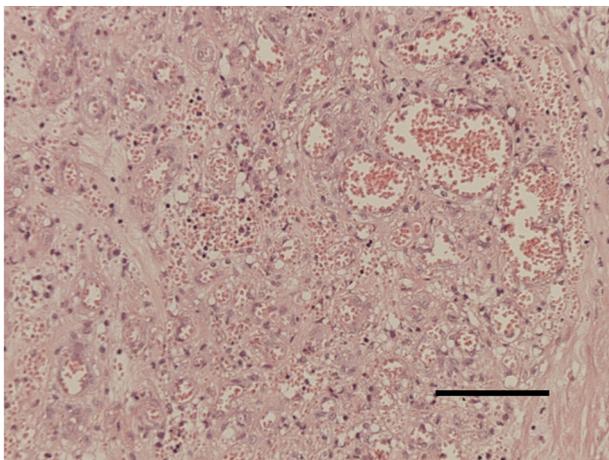


Figure 1 Endoscopic view of the pyogenic granuloma (P). S = septum; bar = 5 mm.

Conflicts of interest: All authors declare no conflicts of interest.



**Figure 2** Microscopically, pathology section reveals a nodular tissue fragment composed of edematous fibrous tissue with lobular proliferation of capillaries. Hematoxylin and eosin stain. Bar = 0.1 mm.

hormonal status. Our patient was a male adult; thus, we think this factor supports the hypothesis that estrogen does not play a role in the etiology of pyogenic granulomas. Pyogenic granuloma lesions may range in size from a few millimeters to a few centimeters.<sup>11,12</sup> However, most of them are smaller than 5 mm in diameter, and grow abruptly over several weeks; the nasal mucosal lesion in our case was not a large one.

In conclusion, if a patient suffers from epistaxis and has a tumor-like pyogenic granuloma in the nasal septum, their connection should be taken into account.

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