

Laryngeal pyogenic granuloma: a case report and revision of literature

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DOI: <https://doi.org/10.5281/zenodo.7543510>

Published Date: 17-January-2023

Abstract: Laryngeal pyogenic granulomas are lesions that appear as a sessile mass, more often unilateral with a vinous red color, or moriform with a rounded appearance and variable volume. The lesion characteristically affects the vocal process of the arytenoid .In this work the authors present a case of giant laryngeal pyogenic granuloma located on the right arytenoid cartilage associated with a similar neoformation of much smaller volume on the left arytenoid cartilage.

Keywords: Larynx, Granuloma, contact ulcer, reflux.

1. INTRODUCTION

Laryngeal pyogenic granulomas are post-traumatic lesions that appear as a sessile mass, more often unilateral with a vinous red color, or moriform with a rounded appearance and variable volume.

The lesion characteristically affects the vocal process of the arytenoid in a location where the perichondrium, due to the absence of the submucosa, adheres tenaciously to the underlying cartilage.

The formation of a contact ulcer through successive phases of secondary perichondritis and contact pachydermia gives rise, in particular conditions, to the formation of exuberant tissue which takes on the histological characteristics of non-specific granuloma.

In this work we present a case of giant laryngeal pyogenic granuloma located on the right arytenoid cartilage associated with a similar neoformation of much smaller volume on the left arytenoid cartilage.

2. PATIENTS AND METHODS

A 54-year-old male patient who had been suffering from dysphonia and hypopharyngeal foreign body sensation for some months came to our observation. The rhinofibrolaryngoscopic examination revealed a large roundish neoformation that originated from the vocal process of the right arytenoid cartilage projecting widely into the glottic region and reducing the respiratory space. A similar formation but of a much smaller size was present contralaterally (Fig. 1)

The patient was operated in endoscopic laryngeal surgery according to the technique we have already described (1) and the two neoformations were removed after cauterization of the pedicle with a monopolar electro-surgical unit.

In fig. 2 we can see the result after seven days.



Fig.1 – Preoperative image



Fig.2 – Postoperative image after 7 days

The result of the histological examination was of capillary hemangioma (pyogenic granuloma); the largest neof ormation had over one centimeter in maximum diameter.

3. OBSERVATION AND RESULTS

Pyogenic granuloma, also called lobular capillary hemangioma, telangiectatic granuloma or granuloma pediculatum, is a proliferation of blood vessels that occurs at the site of recent, even minimal, trauma.

It mainly affects children and young adults, more often in a skin site and less frequently in the mucous membranes (mouth, genitals, ...).

The typical sites are the fingers, the face, the scalp, the trunk, the lips. Most pyogenic granulomas regress spontaneously but, since they are very annoying due to continuous bleeding, surgical removal is often opted for.

Pyogenic granuloma is the unpredictable response to minor trauma.

It is therefore a hyperplastic process (characterized by excessive cell multiplication) reactive to a trauma rather than a neoplastic (tumor) process.

Most of the injuries arise in the site where there was a superficial trauma; some cases of multiple annular granulomas have been described in association with endocrinological changes or drug therapies and have regressed after stimulus removal.

When Pyogenic granuloma occurs as a skin lesion it appears like a nodule or a papula, pink or red brown, painless, of soft consistency and bleeding in case of trauma.

Epulis is a pyogenic granuloma of the oral mucosa, typical of pregnant women, which appears as an easily bleeding pink papule on the inner surface of the labial mucosa or in the gingival area.(2)(3)(4)(5)(6)(7)(8)(9)(10)(11).

Multiple pyogenic granulomas, localized or disseminated, have been described, which are observed in adults after surgical removal or by electrocoagulation of a skin lesion localized to the trunk in the interscapular area (for example a nevus) or following a severe burn(12).

Two atypical variants of pyogenic granuloma are very rare: intravascular pyogenic granuloma, which occurs in the form of a dermal nodule, and the subcutaneous one.

Pyogenic granuloma is an example of inflammatory hyperplasia. The term inflammatory hyperplasia also includes other lesions such as inflammatory fibrous hyperplasia, palatal papillary hyperplasia, giant cell granuloma and epulis gravidarum. Clinically, oral pyogenic granuloma presents as a soft, smooth or lobulated, painless, sessile or pedunculated mass with exophytic growth; the color varies from pink to reddish and spontaneous or induced bleeding phenomena may occur after minor trauma.(13)(14)(15)(16)(17)(18)(19)(20)(21)(22).

The first case was reported in English literature by Hullihen SP in 1844; PG was later described in 1897 by two French surgeons, Poncet and Dor, who called this lesion "botryomycosis hominis". Subsequently, numerous names were given to the lesion such as "granuloma pediculatum benignum", "benign vascular tumor", "pregnancy tumor", "vascular epulis", "Crocker and Hartzell's disease". The current name was attributed to it by Crocker in 1903; however, some researchers believe that it was Hartzell MB in 1904 who introduced the term "pyogenic granuloma". The latter, however, is improper since it is neither related to an infection, nor contains pus, nor is it a true granuloma; the exact etiopathogenesis remains unknown, although factors such as trauma, inflammation and infectious agents are involved(23).

In the oral cavity, in 75% of cases, it develops on the keratinized gingiva, in the remaining cases, on the other hand, at the level of the lips, tongue, buccal mucosa and palate; moreover it is more common in the maxillary gingiva than in the mandible, with a greater prevalence in the anterior than in the posterior sectors(24)(25)(26)(27)(28)(29)(30)(31)(32)(33)(34)(35).

In the larynx, the terms contact granuloma, ulcer of contact or contact pachydermy are used interchangeably in the literature to refer to the accumulation of tissue over the vocal process of the arytenoids and in the interarytenoid area, trying to describe both the etiology and histology of this injury(26)(37)(38)(39)(40).

There is a clear association with certain facts such as: inappropriate use and/or abuse of the voice, gastroesophageal reflux and endotracheal intubation(41)(42)(43)(44)(45).

In case of contact granuloma secondary vocal abuse, it produces a strong shock of the vocal processes of the arytenoids, generating trauma to the mucosa and underlying cartilage, a phenomenon that is seen accentuated with a high volume of voice, such as also with the use of low frequencies and tension to the to talk; sometimes are present chronic cough and hoarseness, which produce a direct trauma to the vocal process.

Laryngeal granuloma is also a well-known complication of endotracheal intubation; it is more frequent in the patients with the longer period of intubation(46)(47)(48)(49).

In recent years, GER has increased its importance as an element cause of many symptoms and chronic pathologies related to the respiratory tract. The postulated mechanism would be a direct damage by the gastric content, with irritation of the mucosa and genesis of chronic inflammation. Along with this, the chronic irritation of the larynx causes a foreign body sensation which, in turn, hoarseness or constant need to clear the road air, and cough, both also associated with the formance the lumen of the airway(50)(51)(52).

4. CONCLUSIONS

The patient subject of this scientific work had not undergone prolonged intubation or laryngeal trauma and was neither a voice professional nor a person addicted to vocal abuse, but had suffered for years from a hiatal hernia with reflux esophagitis and had been in drug treatment with pantoprazole 20 mg. After the surgical procedure and the histological diagnosis, medical therapy was started by increasing the dosage of pantoprazole from 20 to 40 mg and adding trimebutin tablets half an hour before the main meals and an antireflux preparation containing Magaldrate, magnesium alginate, M-adhesyl® (sodium hyaluronate, xanthan gum, plasdone K90 (polyvinylpyrrolidone)) hydroxypropylcellulose, hydrolyzed marine collagen, natural orange flavor, vegetable magnesium stearate, sucralose, acesulfame potassium, sorbitol. (Estorial).

The patient was given a series of recommendations for proper nutrition and a correct lifestyle and recommended quarterly laryngoscopic checkups.

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