LARYNGEAL PYOGENIC GRANULOMA: A RARE CAUSE OF HOARSENESS

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ABSTRACT

Introduction

Pyogenic granuloma is a benign vascular lesion commonly found in the head and neck, especially on the cheeks and in the oral cavity, and rarely in the larynx and trachea. Unlike true pyogenic granuloma, post-traumatic polypoid granulation tissue can be frequently seen in the larynx and trachea.

Case Report

In this case report, we present a 38-year-old female patient who presented with a 6-week history of hoarseness and voice fatigue with no difficulty with breathing. She underwent a videolaryngoscopy in the ENT clinic, which revealed a polypoidal mass arising from the anterior one-third of the left vocal cord. She had an Endolaryngeal excision of the lesion, and histology confirmed a pyogenic granuloma of the left vocal cord.

Conclusion

This case highlights laryngeal pyogenic granuloma as a rare cause of hoarseness, successfully managed with endolaryngeal excision. It underscores the importance of considering this diagnosis in patients with vocal cord masses, even in the absence of typical risk factors.

Key words: Larynx, Pyogenic Granuloma, Hoarseness.

INTRODUCTION

Pyogenic granuloma is a benign lesion of the skin and mucous membranes. It is characterised by the proliferation of benign capillaries, pathologically similar to granulation tissue. The key distinguishing feature is the lobulated arrangement of capillaries seen in pyogenic granuloma.[1] Pyogenic granuloma is mainly seen in female patients between 20 and 40 years of age.[2] The exact aetiology of the condition is still unknown, but trauma, poor oral hygiene, gingival and periodontal diseases and infections are considered to be contributing factors.[3,4] It is primarily seen in the head and neck region, with the gingiva being the commonest site.[2,3] Laryngeal localization of the lesion is extremely rare, and when it occurs, it can present with a soft pedunculated lobular mass that grows rapidly and occasionally bleeds. It may also cause voice changes and respiratory distress, depending on its size and position.[5,6] We present a 38-year-old female patient who we treated for a pyogenic granuloma of the left vocal cord in this case report.

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CASE REPORT

A 38-year-old lady who presented to the Ear, Nose and Throat (ENT) Clinic of 661 Nigerian Air Force Hospital, Ikeja, with a 6-week history of hoarseness and voice fatigue. She did not, however, report any history of difficulty with breathing, dysphagia, neck swelling or haemoptysis. She is a businesswoman whose profession does not require excessive use of her voice, and she does not smoke cigarettes or consume alcoholic beverages. The general physical examination, as well as the examination of the oropharynx and nasal cavities, were all within normal limits. She underwent a videolaryngoscopy in the ENT clinic, which revealed a polypoidal mass arising from the anterior one-third of the left vocal cord (Figure 1); however, both vocal cords were mobile. Informed consent was obtained, and she was booked for Endolaryngeal Excisional biopsy. In the operating theatre, she was induced with intravenous propofol premixed with lidocaine. Intravenous suxamethonium was given to aid intubation with a cuffed 6.5mm endotracheal tube. A smaller-sized endotracheal tube was used to allow sufficient space in the airway for the use of the ENT instruments. She was maintained with Isoflurane at 1.2% and Oxygen at 4l/min via a circle system. She was mechanically ventilated with a tidal volume of 7 mL/kg and a respiratory rate of 18 breaths per minute. Muscle relaxation was achieved with 10mg of atracurium, while analgesia was achieved with IV Fentanyl 100 mcg and Paracetamol 900mg. While under general anaesthesia, she was appropriately positioned (neck flexed and head extended at the atlanto-occipital joint) and a Kleinsasser laryngoscope with an attached 12° side viewing laryngeal telescope was introduced into the larynx, suspended, and the telescope connected to a video camera system. Under magnification, the lesion was successfully excised using laryngeal microscissors and sent for histology in a sample bottle with formalin. She was extubated awake and transferred to the recovery room. The post-operative course was uneventful, and she was discharged home within 24 hours. Histologic sections showed nodular tissue with circumferential ulceration. The parenchyma showed lobules of small, delicate blood vessels within a loose, oedematous stroma, with moderate neutrophil infiltrates, as well as macrophages, histiocytes, and plasma cells. The features are consistent with those of pyogenic granuloma (Figures 2 and 3). She was reviewed in the

ENT clinic six weeks after excision and was found to have a normal voice with no residual symptoms.

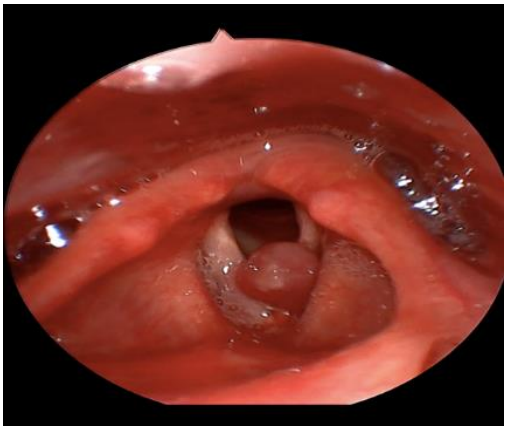

Figure 1: Image of the Mass on Videolaryngoscopy.

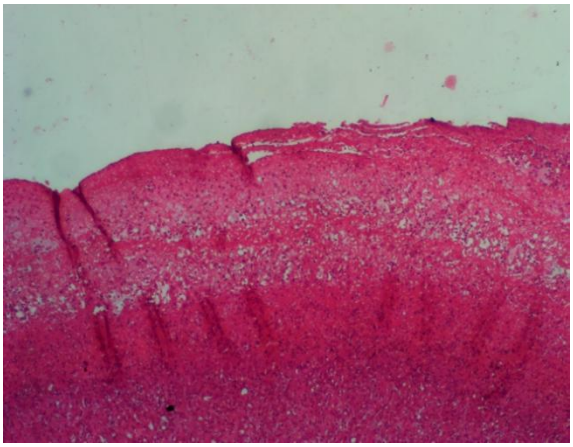

Figure 2: Picture showing epithelial ulceration with fibrinoid exudate (H&E X 40)

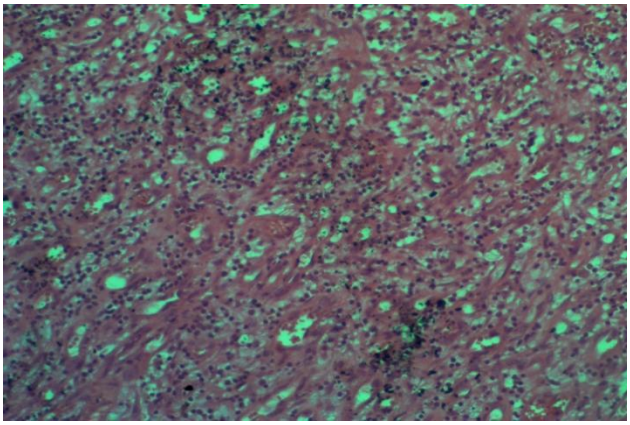

Figure 3: Picture showing delicate blood vessels within a loose stroma. Scattered inflammatory cells are also present (H&E X 100)

DISCUSSION

The term "pyogenic granuloma" is a misnomer, as infections neither cause these lesions nor are they granulomatous. They are typically red, fleshy bumps raised above the skin surface and can bleed easily, as well as ulcerate or become crusty.[3,4] The index patient had a fleshy left vocal cord mass; however, there was no contact bleeding, and the patient did not have haemoptysis. Pyogenic granulomas are rare in the larynx, and a literature search has revealed that only a few cases have been reported globally, with no cases reported from Nigeria. In the past, it had been thought that pyogenic granulomas do not occur in the larynx.[7] This assertion may have been due to the rare occurrence of these lesions in the larynx; however, a few authors have recently reported pyogenic granuloma in the larynx.[5,6,8,9] The exact cause of this lesion in the larynx is unclear, but some possible factors include trauma, voice abuse/misuse, reflux and hormonal changes, particularly during pregnancy.[5,6,8] For instance, Hanick and colleagues reported a pyogenic granuloma in a 23-year-old lady who presented with throat pain in the third trimester of her pregnancy.[6] Laryngeal trauma in the form of blunt or penetrating trauma, as well as endotracheal intubation, has been reported as a cause of pyogenic granuloma. Garrett and Lee reported a 20-year-old woman who presented with voice changes and shortness of breath and was diagnosed with supraglottic pyogenic granuloma following blunt laryngeal trauma.[10] Similarly, Kadir and colleagues reported a 47-year-old male who presented with hoarseness, vocal fatigue and foreign body sensation in the throat and was diagnosed with laryngeal pyogenic granuloma 6 years following endotracheal intubation[8]. The possible aetiology in this index patient was, however, unclear, as she did not report any history of trauma, wrong/excessive use of voice, or reflux, and she was not pregnant at the time of diagnosis or 18 months before that. Laryngeal pyogenic granuloma typically presents with hoarseness (as was the case in this index patient), dysphonia or foreign body sensation in the throat[5]. Several authors have reported hoarseness as a presenting complaint,[5,8,10] while others have reported dyspnoea, especially for those having large lesions.[11] Endolaryngeal surgery, as opposed to microlaryngeal surgery, was used in the index patient to excise the lesion. Endolaryngeal surgery offers the advantage of better visualisation of the laryngeal mucosa, particularly for anteriorly located lesions, as well as a shorter operative time.

CONCLUSION

Laryngeal pyogenic granuloma presents with hoarseness, voice fatigue, dyspnoea, haemoptysis and a foreign body sensation in the throat, and it should be considered as a differential diagnosis in patients who present with laryngeal masses.

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