Abstract

Pyogenic granuloma is a benign vascular lesion that usually occurs in response to various stimuli caused by chronic irritation, trauma and hormonal factors. These lesions generally occur on the gingiva but can also occur on the lips, tongue and buccal mucosa. A 22 year old female patient came with complaints of a lump on the gingiva between teeth 35 and 36 and felt uncomfortable. I have had complaints since 7 months ago after a filling was made on the left back molar tooth, then 1 day later a lump appeared. Complaints are not accompanied by pain. The treatment plan in this case is to carry out information education communication, scaling, gingivectomy and a histopathological examination to confirm the diagnosis and carry out control and evaluation. Pyogenic granuloma is a benign, non-neoplastic lesion. The clinical picture of this lesion is generally a mass with a soft consistency, painless, and dark red to reddish purple in colour which usually appears as a solitary lesion with a diameter of 5-10 mm and is very fragile, so it bleeds easily due to minor trauma. Management of this lesion can be done with a surgical procedure to completely remove the lesion and then carry out an anatomical histopathological examination to confirm the diagnosis of this lesion. This lesion has no signs of malignancy.

Keywords: Pyogenic Granuloma, Irritation, Gingiva.

INTRODUCTION

Pyogenic granuloma is a case that can occur at any age, and generally occurs in young adults and is more common in women. Pyogenic granuloma is a benign, vascular lesion that usually occurs in response to various stimuli caused by chronic irritation, trauma and hormonal factors.\textsuperscript{1,2} Hormonal changes during puberty and pregnancy can influence the response of gingival changes to trauma. Irritant factors that can cause these lesions include poor oral hygiene and can also be caused by irritants such as calculus or foreign objects, high restorations, elevations, etc.\textsuperscript{3,4}

Irritation can cause the fibrovascular connective tissue in the irritated area to become hyperplastic and also cause proliferation of granulation tissue which will then trigger the formation of pyogenic granulomas.\textsuperscript{5} Pyogenic granuloma macroscopically has the appearance of a polypoid mass that is bluish red in color, has a rubbery consistency, can be pedunculated or sessile with sizes varying from several millimetres to several centimeters.\textsuperscript{6}

In pyogenic granulomas, ulcerated lesions are sometimes found because of secondary trauma, with the characteristic of these ulcerated lesions being that they are usually covered by a yellow fibrin membrane. Microscopically, this pyogenic granuloma has an exophytic growth pattern surrounded by normal tissue coated with flat layered epithelium, atrophy or ulceration with lesions consisting of proliferation of blood vessels and granulation tissue. Microscopically there are inflammatory cells, lymphocytes, and plasma cells.\textsuperscript{7}

Management of pyogenic granuloma involves excision of the lesion and improving the cleanliness of the oral cavity. Pyogenic granulomas found in pregnant women or during pregnancy will usually reduce on their own after giving birth and hormone levels return to normal, so they do not need treatment or they become fibroma.
Pyogenic granuloma does not have the potential for malignancy.\textsuperscript{6,8}

**CASE REPORT**

A 22 year old female patient came with complaints of a lump on the gingiva between teeth 35 and 36 and felt uncomfortable. Complaints have been felt since 7 months ago after a filling was done on the left back molar (tooth 36), then 1 day later a lump appeared. Complaints are not accompanied by pain. Previous complaints had been consulted at the community health centre but treatment had not been carried out. The patient had never previously had his teeth cleaned. Patients brush their teeth twice a day, namely in the morning and at night before going to bed. The patient last went to the dentist 7 months ago for a consultation regarding his lump. The patient does not use dental floss to clean his teeth. The patient is not suspected of having a history of systemic disease and is not taking routine medication. The patient has no allergies to certain foods or medications. The patient's family is not suspected of having a history of systemic disease and is not taking regular medication.

Extraoral physical examination did not reveal any abnormalities in the tissue around the head, neck, TMJ and lymph node tissue in the patient. Intraoral examination revealed a nodular lesion on the gingiva between teeth 35 and 36 measuring +10 mm, irregular in shape, soft consistency, painless, reddish in color, movable and stemmed.

Management for this case is communication information education to patients, scaling, gingivectomy were carried out, then histopathological examination, control and evaluation were carried out. After the gingivectomy procedure is carried out, then a supporting examination is carried out, the histopathological examination to obtain a diagnosis of the case.

![Figure 1. The lesion is in gingiva labial between 35 and 36](image-url)
Based on the histopathological examination, the results showed that the macroscopic appearance of the tissue was 0.6 x 0.4 x 0.3, brownish white in color (Fig. 3). The microscopic picture shows tissue protrusions covered by complex squamous epithelium, some with raised "rete ridges", some with acanthosis. Stroma with lots of inflammatory cells consists of lots of lymphocytes, PMN leukocytes, enough plasma cells, and few histiocytes (Fig. 2). There was a proliferation of capillaries. Non-atypia endothelial cells. There were no signs of malignancy or typical signs. Histopathological examination showed that surgical excision of the mass in the gingival region between teeth 35 and 36 was a pyogenic granuloma. DD: granulomatous epulis.

CASE MANAGEMENT

The first visit indicated an oral lesion. Subjective examination, the patient came in complaining of discomfort because there was a lump on the gingiva between teeth 35 and 36. This complaint had been felt since 7 months ago after the patient had a filling done on the left back molar on tooth 36. The patient did not feel any pain in the gingiva. Objective examination showed that there was a nodular lesion on the gingiva between teeth 35 and 36 measuring +10 mm, irregular in shape, soft consistency, painless, reddish in color, movable and stemmed. Then a referral was made for a gingivectomy to remove the lump and after that a referral was made for a histopathological examination to get a diagnosis of the case.

The last visit, after obtaining the results of the histopathological examination, it was concluded that the surgical excision of the mass in the gingival region between teeth 35 and 36 was a pyogenic granuloma. Then a control is carried out to look at the surgical scar. Previously, the patient underwent scaling and gingivectomy 11 days ago and after the procedure was prescribed antibiotics and analgesics. The medication prescribed, antibiotics were taken completely by the patient, and the analgesic medication was only taken once because the patient did not complain of pain. Currently the patient has no complaints and no pain. Patients brush their teeth twice a day, in the morning after breakfast and at night before bed. The patient has no history of systemic disease and no specific food or drug allergies. The
patient's family is not suspected of having a history of systemic disease and is not taking regular medication. Objective examination shows that there are gingiva that are the same color as the surrounding area by palpation: (-).

Figure 4. Healing after surgical examination.

DISCUSSION

Pyogenic granuloma is a benign, non-neoplastic lesion that usually occurs due to minor trauma. The clinical picture of this lesion is generally a mass with a soft consistency, painless, and dark red to reddish purple in color which usually appears as a solitary lesion with a diameter of 5-10 mm and is very fragile, so it bleeds easily due to minor trauma.\(^5\)

Pyogenic granuloma generally occurs due to chronic irritation, trauma and hormonal factors. These lesions generally occur on the gingiva but can also occur on the lips, tongue, and buccal mucosa because the gingival area is the place most often exposed to trauma and irritating agents. These lesions can occur at various ages but usually occur most often in young women which may be caused by hormonal factors in women. In my case, pyogenic granuloma occurred in a female patient aged 22 years.\(^9\)

The diagnosis of pyogenic granuloma can be made by carrying out anamnesis, clinical or objective examination as well as supporting examinations which are supported by histopathological examination of the specimen obtained. This examination aims to confirm the diagnosis and exclude several other lesions with a similar clinical picture such as fibrous hyperplasia, hemangioma, irritation fibroma, metastatic tumours and so on.\(^10\)

The histopathological picture of this lesion is visible tissue that is partially or completely covered by a layer of hyperplastic parakeratin stratified squamous epithelium or non-keratin with areas of atrophy, ulcers and fibrin leukocyte membranes.\(^6\)

There are inflammatory cells, lymphocytes and plasma cells. In the results of the histopathological examination in my case for the microscopic histopathological picture, it was found that tissue protrusions were covered with complex squamous epithelium, some with raised "rete ridges", some with acanthosis. Stroma with lots of inflammatory cells consists of lots of lymphocytes, lots of PMN leukocytes, enough plasma cells, and few histiocytes. There was a proliferation of capillaries. Non-atypia endothelial cells. There were no signs of malignancy or typical signs.\(^6,11,12\)

Treatment to treat these lesions requires surgical treatment. Surgical treatment for pyogenic granuloma aims to remove the lesion completely and then carry out a histopathological examination of the excision of the tissue to confirm the diagnosis of the lesion.\(^13\) The prognosis for patients with pyogenic granuloma is good, because recurrence usually does not occur. This pyogenic granuloma tends to recur or has a tendency to recur as a result of incomplete excision.\(^15\) In my case, the management of the lesion involved a
surgical procedure, namely gingivectomy, to completely remove the lesion then a histopathological examination was carried out. This pyogenic granuloma lesion does not have the potential for malignancy.²

CONCLUSION

Pyogenic granuloma is a non-neoplastic benign lesion that generally occurs on the gingiva but can also occur on the lips, tongue or buccal mucosa. These lesions can be caused by trauma, chronic irritation and hormonal factors. The management of this lesion involves a surgical procedure to remove the lesion, then an anatomical histopathological examination is carried out to confirm the diagnosis of this lesion and to exclude several other possible lesions that have a similar clinical picture. This lesion has no signs of malignancy.

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REFERENCE


