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Professional paper

CLINICAL EVALUATION AND MANAGEMENT OF EPULIS GRAVIDARUM FROM OBSTETRIC AND ORAL SURGICAL PERSPECTIVES

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Abstract

Epulis gravidarum is a benign, non-neoplastic and self-limiting oral lesion, which occurs during pregnancy due to hormonal changes, mainly from estrogen and progesterone. Contributing factors are increased vascularization from the antihypertensive therapy, poor oral hygiene that contributes in the formation of plaque and calculus. Consequences include bleeding, secondary infection and also difficulties in mastication and speech.
Fetal complications arising from this maternal oral pathology are intrauterine growth restriction (IUGR), low birth weight, preterm rupture of fetal membranes, preterm uterine contractions thus resulting in preterm labor.
Our case report is about a thirty five year old pregnant woman, with her fourth pregnancy. She developed an oral lesion in the anterior mandibular region during the second trimester of her last pregnancy. The gingival mass was approximately 3 cm, and was following with spontaneous and provoked bleeding. From the anamnesis, the patient gave us information about chronic hypertension which was managed with Tbl. Enalapril prenatally, and Tbl. Methyldopa perinatally.
Perinatally the patient was followed by an oral surgeon and obstetrician, and was decided for conservative management of the gingival mass until delivery. Surgical operation was performed several months after delivery, using electrocautery and the histopathological material excised was used to confirm the diagnosis.
Conservative oral management and regular follow up by an obstetrician during pregnancy are with crucial importance, because delayed treatment can lead to maternal and fetal complications. Surgical excision is preferred after delivery to minimize risks of hemorrhage and recurrence.

Keywords: Epulis gravidarum, pregnancy, fetal complications, conservative management

1. Introduction

Epulis gravidarum or pyogenic granuloma is a benign, reactive pregnancy tumor with an incidence of 5 % among pregnant women (Alhindi et al., 2019).
This tumor mostly arises from elevated levels of estrogen and progesterone on inflamed gingiva, which can result in localized angiogenesis and hyperplasia of connective tissue, in the second or third trimester of pregnancy. (Lomeli Martinez al., 2023).
Poor oral hygiene can be a risk factor for exacerbation of this condition, because can cause local irritation and accumulation of plaque, which can contribute to inflammation of gingiva and growth of the lesion (Togoo et al., 2019). Biopsy is usually required for confirmation for this lesion can increase in size, interfere with oral functions and can mimic malignant process (Pecci-Lloret et al., 2024).
Hypertension is a systemic disorder that has influence in the oral vasculature. Antihypertensive therapy like Methyldopa, which is the main therapy for hypertension during pregnancy, has also been associated with altered gingival response (Mulrenin et al., 2021). The beta blocker therapy used for arrhythmia, can modify peripheral circulation and have an indirect impact healing of the lesion (Church et al., 2024).

This case report presents the evaluation, management and treatment of a chronic hypertensive patient with epulis gravidarum during pregnancy.

2. Case report

Our case report is about a 35 year old patient, who was presented in the department of oral surgery, with and enlarged gingival mass in the mandible. The lesion firstly was a small nodule, asymptomatic, but for six weeks it became larger and symptomatic. She was with her fourth, well controlled pregnancy.

2.1 Medical and obstetric history: The patient was with history of chronic hypertension, which has been controlled with Tbl. Enalapril 10 mg, daily before pregnancy. After pregnancy, she was in treatment with Tbl. Methyldopa, 250 mg, twice daily. During pregnancy she also made a consultation with cardiologist and she began treatment with antiarrhythmic therapy when needed. She had no other comorbidities. There was not a history of pregnancy complications during her third previous pregnancies and spontaneous deliveries. She had made regular prenatal follow up during this pregnancy, reported with normal fetal growth parameters on ultrasound.

2.2 Oral and clinical evaluation: From the oral examination was revealed a mass with a reddish- purple color, which was pedunculated and with a diameter of 3 cm. The mass was located between the left lateral mandibular incisor and canine. It was a soft, lobulated lesion which bled spontaneously and also on contact. Gingiva was inflamed, which indicates for poor oral hygiene, also there was significant plaque accumulation.

Figure 1: Gingival mass in the anterior mandibular region, with inflammation and plaque accumulation – preoperative condition of the oral cavity.

From the anamnesis the patient reported that had difficulty in chewing, often bleeding during tooth bushing and odor. From the radiography there was not alveolar bone involvement, also from the laboratory analyzes, there was normal coagulation profile and normal complete blood count.

2.3 Management: During pregnancy the patient was managed conservatively, based on gestational age and clinical symptoms and signs. To the patient were given advices how to improve oral hygiene and also was explained the benign nature of the lesion. To the patient was explained the benign nature of the lesion and also were given advices how to improve oral hygiene with gentle brushing techniques and with chlorhexidine mouthwash (0.12 %).
Regular follow up was made by oral surgeon and obstetrician. The lesion remained stable with no exacerbation during pregnancy and the patient delivered a term, healthy baby spontaneously, without obstetric complications.

2.4 Postpartum condition of the patient and the surgical operation:
In the postpartum period, the lesion was with similar size and condition as in the period of pregnancy. After three months postpartum, was performed surgical excision of the mass under local anesthesia. We used electrocautery to achieve easily hemostasis.

Figure 2: Histopathological material of the excised epulis showing lobular capillary proliferation, edematous stroma, and a dense mixed inflammatory infiltrate, characteristic of epulis gravidarum.

The histopathological material showed granulation tissue with increased vascularization, inflammatory tissue, fibrous tissue, suggestive with epulis gravidarum. It was very important that no evidence of malignant cells was found. Post surgical healing was uneventful and within six week follow up we observe that there was no recurrence and gingival tissue had improved since the patient followed our advices about oral hygiene.

Figure 3: Postoperative condition of the patient showing complete healing of the excised gingival mass, with no signs of recurrence and improved gingival health.

3. Discussion

From this case, we observe that there is a strong relation between patient hormonal status, comorbidities and oral factors, in the development of epulis gravidarum. Hormonal status in pregnancy is important for they can increase vascular permeability and also inflammatory reaction in the gingival tissue (Alhindi et al., 2019). In addition oral hygiene is a critical factor for exacerbation, including formation of dental plaque or calculus, which can trigger inflammatory response under the influence of estrogen and progesterone Chen et al., 2022). During the first examination, we observed that our patient had minimal effective oral hygiene and the plaque control was suboptimal. Mulrening et al., (2021) and De Falco et al., (2022) reported that the antihypertensive therapy during pregnancy (Methyldopa) may indirectly cause gingival hyperplasia and changes in vascularization. Changes in local vascular dynamics and gingival hyperplasia by beta-blockers were documented in the research from Church et al., (2024). Effective treatment of epulis gravidaum depends on the size of the lesion, clinical symptoms, comorbidities, gestational age and also oral hygiene. During pregnancy the initial treatment is conservative, following surgical treatment after pregnancy, to avoid complications like preterm birth or recurrence of the mass (Yenen & Atacag, 2019).
Our case required interdisciplinary management to control the oral condition during pregnancy, to ensure a normal delivery and to achieve effective, definitive surgical treatment after delivery.

4. Conclusion

Epulis gravidarum is a benign, non-neoplastic and self-limiting oral lesion, that occurs during pregnancy due to hormonal changes, mainly from estrogen and progesterone. Contributing factors are increased vascularations from the antihypertensive therapy, poor oral hygiene that contributes for formation of plaque and calculus. These risk factors can contribute to complications such as bleeding, secondary infection and also difficulty in mastication and speech.
During pregnancy it is important conservative management including proper oral hygiene, plaque control and regular follow up, to avoid invasive procedures, unless absolutely required.

Patient education is very important during these stages to prevent oral and obstetrics complications.
After pregnancy, excision is recommended if the lesion persists with its clinical symptoms. It is very important to incorporate into the prenatal care programs dental evaluations that will allow early detection and proper management of epulis gravidarum and other pregnancy related oral pathological lesions.
With this case report, we do not only emphasize the need for prenatal oral programs but also we encourage that with proper evaluation and management of oral health concerns during pregnancy, we prevent complications that are crucial for maintaining healthy pregnancy and achieve successful, safe delivery.

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