



Pregnancy tumor – characteristic. Case study

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ABSTRACT

In the period of pregnancy in females, a sequence of physiological changes takes place that result above all from the appreciable increase of the concentration of the steroidal sex hormone in the blood serum and to a lesser degree, in saliva. In this study, a case of rare pregnancy granuloma is presented. A course of disease and procedures are described.

Keywords: pregnancy, pregnancy granuloma

INTRODUCTION

During pregnancy women are greatly affected by hormonal changes, the fluctuations of the blood pressure; a circulating blood volume is altered as well as the sequence of changes in hormone level of the organism. The appreciable increase of the concentration of estrogens and the progesterone causes the appearance of more or less intensified problems with gums at pregnant women. The literature reports mention that increased concentrations of steroidal hormones in blood as well as in saliva, can play a role in increasing inflammatory changes in parodontal tissues [2,5]. Substantial role is also assigned to a dental hygiene, particularly to elimination of the dental plaque. Also the fall in the immunologic resistance in pregnancy is thought to be a precipitating factor conditioning the increase in the susceptibility of alveolar tissues to the dental plaque and the development of inflammatory processes [7].

Changes in the bacterial flora of alveolar pockets are also observed. Examinations of the subgingival bacterial deposit reveal the growing relation of Gram-negative anaerobic organisms to the aerobic ones. Kornman and Loesche showed in their examinations that at pregnant women the rising level of estrogens and the progesterone in blood influenced the development of an inflammatory condition of gums and the increased number of *Prevotella intermedia* in alveolar pockets [6,8].

Gingivitis at pregnant women is connected with a presence of the dental plaque, in which microorganisms present in the alveolar crack, producing enzymes, are damaging the epithelium, fibrocytes and the ingredients included in the intercellular space, such as collagen, basic substance and glycosaminoglycans.

Pregnancy gingivitis (gingivitis gravidarum), describes the superficial, inflammable-hyperplastic state of the parodontium characteristic of the period of pregnancy, manifested above all with reddening and swelling on single gingival papillae or the entire marginal gingiva, with intensified bleeding of the gums during brushing or probing of alveolar pockets. Gingivitis gravidarum presents features of inflammation triggered by the presence of the dental plaque. In addition - in order that the inflammatory changes might take place, other essential factors must exist: hormonal imbalance, changes accompanying cell metabolism and the immune response. Characteristic is the course of inflammation which seems to act in accordance with hormonal changes.

At the beginning of pregnancy, inflammation appears along with the increase of human chorionic gonadotrophin, and the process is facilitated by rising levels of the progesterone and estrogens [5,11]. The highest increase of manifestations was noted down in the third and eighth month of pregnancy, and after the delivery. They regress spontaneously along with plummeting levels of hormones. An extreme example of a characteristic inflammatory condition of pregnancy appearing in 1st and 2nd term of pregnancy is pregnancy granuloma [9].

Described over one hundred years ago it is determined as angiomatous epulis, angioma from capillaries, granuloma of pregnant women, pyogenic granuloma, Crocker-Hartzell disease. Pregnancy granuloma is not a typical granuloma, but the intensified inflammatory response during pregnancy to irritants, resulting in creation of a single pyogenic angioma that easily bleeds even after delicate provoking [4]. Clinically it is manifesting as painless papule, looking like the mushroom, stalked or not, situated on the edge of the gum or more often on the interdental papilla. Loss of the bone of the alveolar process in the surroundings of the hyperplasia is not reported.

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Histologically, it is characterized by a proliferation of the endothelium and a development of the network of blood vessels, with the elevated number of fibroblasts and the swelling of inflammatory cells: neutrophils, lymphocytes, plasma cells. In the hyperplastic inflammable granulation, it is possible to find characteristic cells of acute phase as well as chronic phase of the inflammation. Recent studies of Yuan et al. emphasized the substantial role of macrophages possessing estrogen receptors in angiogenesis in these inflammation sites [10]. Granuloma appears, depending on sources, at 0.5–5% of pregnant women. It more often appears in the jaw and can develop already in the first term of pregnancy, regressing or disappearing after the childbirth [8]. Removed during pregnancy, epulis gravidarum presents a tendency of reappearing and as it has been demonstrated earlier, there exists a tendency of recurrence of this illness during next pregnancies.

Pregnancy granulomas develop quickly; they are soft structures, of red coloring and remain in such a form, not inclining to become malignant. At the basis of these changes irritants often coexist, e.g. plaque, defective prosthetic restorations, micro traumas or the rough edge of the filling [6]. Apart from pregnancy granuloma, it is still possible to distinguish the following changes accompanying expectant mothers:

- Gingivitis gravidarum simplex- local inflammatory condition around single teeth and slight bleeding of these sites;
- Gingivitis gravidarum diffusa haemorrhagica- erythemic gingivitis, with the characteristic red hem on lightly swollen, free edge of the gum;
- Gingivitis hypertrophica localisata- limited hypertrophy on one or of a few gingival papillae, usually on the front teeth;
- Gingivitis hypertrophica generalisata- the advanced and generalized hypertrophy of gingival papillae and the marginal gingiva, leading to partial covering of the crowns of teeth and the coming into existence of false alveolar pockets [4,3].

CASE STUDY

A patient D.Z., aged 30, six months pregnant, was referred by the stomatology doctor to the Clinic of the Dental Surgery of Medical University of Lublin for consultation. On taking history, the patient reported a little, indolent change on gums at the end of the first term to pregnancy. Problems with keeping the appropriate dental hygiene and with eating foods were revealed later. The worry aroused over a sudden increase of the lesion at the patient about character of granuloma, within 4 last weeks. The patient did not report other coexisting diseases.

In the clinical exam, a presence of granuloma was confirmed near teeth 14, 15, located on the palate (Fig. 1). Granuloma of the diameter of the c. 2 cm of the intense-red color, soft, based on the wide pedicle, slightly movable rela-

tive to base was found. In the palpation- indolent, easily hemorrhaging. Also sharp edges of crushed fillings were stated in teeth neighboring the granuloma, being a potential irritant. Remaining mucous membranes did not demonstrate aberrations.



Fig. 1. Pregnancy tumor-view from the palatal side

Based on the subjective and objective examination a decision on the surgical treatment was made. The patient gave consent to the suggested treatment. In infiltration and ductal anaesthesia with 2% Lignocaine the lesion was excised in one piece and then sent for the histological examination (Fig. 2). The wound was supplied with surgeon's sutures (Fig. 3). The course of healing was correct. Sutures were re-



Fig. 2. The lesion totally excised

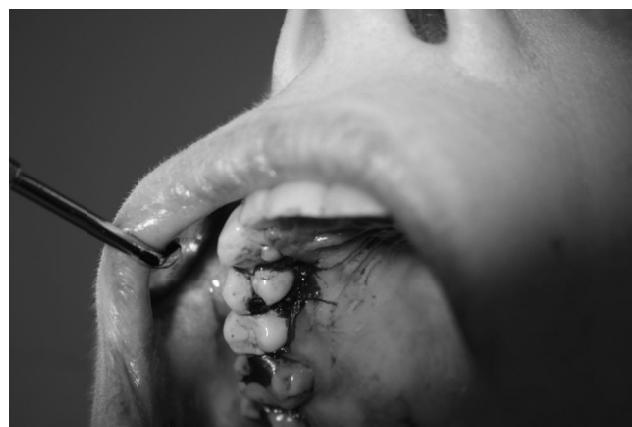


Fig. 3. The wound supplied after tumor excision

moved after 8 days. The result of the histological examination confirmed the preliminary diagnosis: tumor gravidarum.

RESULTS

The control exam was conducted after 3, 6 and 12 months. A recurrence of granuloma was not stated in the operated area.

DISCUSSION

The lesion after the non-invasive treatment, consisting in removing inflammable and irritant factors, may lead after parturition to the regression of pregnancy granuloma or to the change of a fibromatic character. Surgical removal of the lesion is usually performed after the childbirth. Great granulomas can give such clinical symptoms, as difficulty in stopping bleeding, problems in closing the oral cavity, loss or the translocation of teeth. Then constantly irritated, the granuloma is expanding and causes problems with biting and mastication, injuring local tissues of the paradontium bordering with it. In such a case, granuloma should be removed surgically in the preferred time of the second term of pregnancy [1].

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