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Pregnancy Gingivitis.

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ABSTRACT

Pregnancy is a physiological state that brings a wide range of changes in a women's life, including a susceptible to periodontal diseases, probably due to hormonal changes associated with pregnancy. The metabolism and immunology of the body are modified by hormones like progesterone and estrogen as well as other local factors. These hormones may modify the oral mucosa and lead to various periodontal diseases.

Keywords: gingivitis, pregnancy, periodontal disease.

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INTRODUCTION

Pregnancy is defined as a state that includes fertilization, implantation, embryonic and fetal growth. Gingival enlargement begins with increasing gonadotropin levels and is maintained through out 4 to 8 months of pregnancy. An increase in the proportion of *Prevotella intermedia* in bacterial plaque rather than an increase in total plaque is instrumental in the development of gingival inflammation during pregnancy. And also hormonal changes that affect the gingival tissue several microbial changes in the sub gingival flora and immunosuppression of the immune system [1-7].

Pregnancy Gingivitis

Pregnancy gingivitis is inflammation of the gingival tissue caused by hormonal changes and progesterone. Initially the ratio of estrogen and progesterone is 100:1 but during the final month it reaches 1:1. Two theories have been proposed for the action if the hormones on the cells of the periodontal tissues [8-15].

- Changes in the epithelial barrier to bacterial insult.
- Effect on the collagen turnover.

Effect of Estrogen on the Periodontal Tissue

- Decrease keratinisation while increasing epithelial glycogen that results in the diminution in the effectiveness of the epithelial barrier.
- Increase cellular proliferation in blood vessels.
- Stimulate Polymorphonuclear Leukocyte (PMNL) phagocytosis.
- Inhibits PMNL chemotaxis.
- Suppress leukocyte production from the bone marrow.
- Inhibits pro-inflammatory cytokins released by human marrow cells.
- Reduces T-cells mediate inflammation.
- Stimulates the synthesis and maturation of gingival connection tissue.
- Stimulates the proliferation of the gingival fibroblast.
- Increase the amount of gingival inflammation with no increase of plaque.

Effect of Progesterone on the Periodontal Tissues

- Increase vascular dilation, thus increase permeability.
- Increase the production of prostaglandin.
- Increase PNML and prostaglandin E2 in the gingival cervical fluid(GCF)
- Inhibits collagen and non-collagen synthesis in the periodontal ligament (PDL) fibroblast.
- Inhibits proliferation of human gingival fibroblast proliferation.
- Alters rate and pattern of collagen production in gingival resulting in reduced repair and maintenance potential.
- Increase the metabolic breakdown of folate which is necessary for tissue maintenance and repair.

CASE REPORT

A 30yr old female patient came with the complaint of swollen gums in the front tooth region for past 1 month. Swelling started one month back and enlarges to present size. She complaints of bleeding gums for past six months. On examination, swelling of size 1cm into 1cm extending into the attached gingiva and alveolar mucosa. Surface is rough and swelling is pedunculated.

Oral prophylaxis and root planning done in the first visit. Chlorhexidine mouthwash is prescribed. Gingivectomy done in 41 to 33 region under local anesthesia. External bevel incision given and the tissue were excised. Periodontal dressings placed on the surgical site. Antibiotics and analgesics were prescribed.



DISCUSSION [16-23]

Microbial Changes During Pregnancy

Pregnancy is accompanied by many changes in the composition of subgingival microflora. The concentration of hormones changes the oral microflora during pregnancy. *Porphyromonas gingivalis*, *Tannerella forsythia*, *Prevotella intermedia* are known to synthesize steroid metabolizing enzyme needed for steroid synthesis and catabolism. This leads to gingival microflora and gingival inflammation increased from week 12 of pregnancy and maintained during the third trimester and after delivery, the levels of bacteria are reduced.

Gingival Changes during Pregnancy

The prevalence of gingivitis during pregnancy has been studied in different population. It varies between 67 to 100%. Studies have been done in both pregnant and non-pregnant women, they observed that there is much different in them. During pregnancy some person has calculus and gingival inflammation. Few women have healthy gingival also. These studies evaluate bleeding on probing, pocket depth and loss of attachment and also gingival overgrowth.

Pregnancy gingivitis is characterized by erythema, edema, hyperplasia and pocket depth, increase gingival fluid and even mobility of tooth occur. Anterior region of the tooth is commonly affected and interproximal sites tends to be involved.

Pregnancy Gingivitis

The pregnancy tumors or pregnancy associated pyogenic granuloma appears most commonly during the second or third month of pregnancy. Gingiva is most commonly involved and followed by tongue, lip, buccal mucosa and the palate. The inflammatory response to local irritation then enlarge gingival rapidly, bleeds and becomes hyperplastic and nodular. The tumor ranges from purplish red to deep blue in color with small fibrin spots.

TREATMENT

Pregnancy gingivitis and localized gingival enlargement occurs usually in the first trimester of pregnancy and extends onto third trimester. Scaling and root planning can be performed from week 8 without without increased risk for pregnancy. Gingivoplasty or Gingivectomy may be required after pregnancy.

Complication

If gingivitis during pregnancy is not treated it leads to pre-term birth and low birth weight infant.

Prevention

- Brush teeth twice a day.
- Dental floss and mouth wash can be used every day.
- Eat plenty food with plenty of vitamin B12 and C.
- Visit a dentist for advice on preventing/controlling plaque and gingivitis and routine checkup and dental cleaning is necessary.

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