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RESEARCH ARTICLE

MANAGEMENT OF A CASE OF GENERALIZED SEVERE CHRONIC PERIODONTITIS WITH PYOGENIC GRANULOMA ASSOCIATED WITH THE USE OF COMBINED ORAL CONTRACEPTIVE PILL: A CASE REPORT

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ABSTRACT

Combined oral contraceptive pill (COCP) is a birth control measure that reversibly inhibit female fertility and it includes a combination of estrogen and progesterone. Non contraceptive uses of COCP include amenorrhoea, menorrhagia, dysmenorrhoea, PCOS. Pyogenic granuloma is a reactive tumour like lesion which arises in response to various stimuli such as low grade local irritation, traumatic injury, hormonal factors or certain kind of drugs like oral contraceptive pills. A 32 year old woman with complaints of bleeding gums and pain while eating was on COCP for dysmenorrhoea and menorrhagia. The gingival inflammation as an exaggerated response to plaque due to the use of hormones further lead to inadequate maintenance of oral hygiene which further deteriorated the periodontal status and association of pyogenic granuloma wrt 47. Patient was treated by discontinuation of COCP after consultation of gynaecologist which lead to visible minimisation of the gingival growth. Pyogenic granuloma was surgically excised and periodontal therapy completed subsequently.

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INTRODUCTION

Oral contraceptives (OCs) were introduced and were given approval by US Food and Drug Administration in the 1960s. The earlier oral contraceptives consisted of high doses of estrogen and progesterone which had various adverse effects. This lead to development of newer oral contraceptives with low doses of estrogen and progesterone. Oral contraceptives have been proved to be a convenient, safe and effective form of contraception (Davis, 1999; Burkman, 2004). However, it has been suggested that their use have placed women at risk for periodontal diseases (Amar, 1994). Some clinical studies of combined oral contraceptives (COCPs) containing estrogen and progestin in high doses have found that these drugs increased the risk for gingival disease and have an adverse effect on the underlying supporting periodontal tissues (Lindhe, 1967; Das, 1971). Other studies have reported a direct relationship between gingival diseases and the duration of COCP use (Pankhurst, 1981). Oral pyogenic granuloma is a benign and fibro vascular proliferative lesion. It predominantly occurs on the gingivae and less frequently at other oral sites. The aetiology of this lesion is largely unknown although trauma, poor oral hygiene and altered sex hormone levels have been suggested to be important factors (Shafer, 1974).

It has a prevalence rate ranging from 0.2-5 % in pregnant women (Tiililä, 1962). Oral pyogenic granuloma and use of oral contraceptives have an association (Pearlman, 1974). Periodontal disease has a multifactorial etiology which is characterized by presence of periodontal pockets or recession or both. Loss of clinical attachment is the hallmark of periodontitis. Chronic periodontitis is the most common form of periodontitis which occurs either as a localized disease or as a generalized disease. It may also be described as slight, moderate, or severe form on the basis of the amount of Clinical Attachment Loss (CAL). This case report presents a rare case of periodontitis and pyogenic granuloma in a patient on oral contraceptives.

Case Report

A 32 year old women reported with a chief complaint of bleeding gums, pain on eating in upper and lower front teeth region and a growth in lower right back tooth region since one year. Bleeding from gums was generalized, mild to moderate in intensity, which aggravated on brushing, eating or by applying finger and relieved on rinsing. Pain was localized to upper and lower front teeth region, mild to moderate in intensity, aggravated by eating and relieved on it's own with no referral. Patient had visited dentist for the same problem eighteen months back and oral prophylaxis was done. The problem subsided initially but recurred after few months.

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Intraorally, the gingiva was reddish in color with soft and oedematous consistency. There was loss of normal arcuate pattern with rolled out margins and the position of gingiva was coronal to CEJ. There was a generalized probing depth of more than 7mm. Also a 1.5 X 1 cm of sessile growth was present wrt 47 region which was painless, reddish pink in colour, bleed easily on palpation and has increased in size over the last 6 months. The lab investigations included complete blood count, blood glucose level at fasting and at two-hour postprandial and routine urine examination. An excisional biopsy of the sessile growth was carried out and the specimen was sent for histopathological examination. Histopathological report showed focally ulcerated epithelium with dense proliferation of fibroblasts along with presence of multinucleated giant cells and patchy chronic inflammation.

The initial treatment consisted of oral prophylaxis. Systemic antibiotics (Tab Augmentin 625mg thrice daily, Tab Tinidazole 500mg twice daily for 7 days) and 0.12% chlorhexidine mouthwash twice daily. Following Phase-I treatment the patient was placed on a maintenance phase and was further re-evaluated. The patient's gynaecologist was consulted regarding opinion on continuation of oral contraceptive as patient did not have any complaint of menorrhagia and dysmenorrhoea since last 2 months. The oral contraceptive was then stopped on advice of the gynaecologist. The surgical phase comprised of conventional flap surgery with curettage and debridement. Three months post-operative clinical examination showed a generalized reduction in probing depth, resolution of inflammatory signs, no recurrence of pyogenic granuloma and the patient was able to maintain good oral hygiene.

Medical history revealed that the patient was on oral contraceptive (Tab Ginette 35 containing Ethinylestradiol 0.035mg and Cyproterone 2mg) from last 5 months, prescribed for heavy bleeding during menstruation and dysmenorrhoea. The onset of the symptoms were one year back when the same oral contraceptive was advised to the patient to be used on requirement basis only. After some time patient had stopped oral contraceptives on her own. But six months later the patient was again placed on contraceptives on once daily basis as the problem reappeared. Extraoral examination revealed no cervical lymphadenopathy or extraoral lesions.

DISCUSSION

Since their introduction in the 1960s, oral contraceptives have been rapidly accepted as an effective method of contraception. The dosage of estrogen and progesterone has been reduced significantly in the newer pills to reduce the associated side effects. COCPs are the most popular method of contraception for women under the age of 30 years in UK. The most common estrogen used is ethinylestradiol, in doses between 20 and 35µg and progestogens are used in doses between 0.5-1 mg/day. Oral contraceptives have some non-contraceptive uses also. For example, the pill can reduce irregular and heavy bleeding and painful periods, also called menorrhagia and dysmenorrhea. There are also reports of reduced headaches, tiredness, bloating and menstrual pain among users. It has been found that most COCPs improve acne by raising the levels of sex hormone-binding globulins. Gingival tissues may have an exaggerated response to local irritants. Inflammation ranges from mild edema and erythema to severe inflammation with hemorrhagic or hyperplastic gingival tissues (Ottomo-Corgel, 2000).

In a comparative study, women using OCs for a period of 12 years showed a 50 per cent increase in gingival fluid volume than those who were not on OCs (Lindhe, 1967). The exaggerated gingival response might be due to increased gingival permeability, alterations of microvasculature, and the increased synthesis of prostaglandins as suggested by Kalkwarf (Kalkwarf, 1978). In the present case, the gingival inflammation due to the exaggerated response to plaque by the use of hormones further lead to inadequate maintenance of oral hygiene which further deteriorated the periodontal status and association of pyogenic granuloma wrt 47. Pyogenic granuloma is an inflammatory hyperplasia seen in the oral cavity. The term as such is a misnomer since the lesion is not associated with pus and it resembles a angiomatous lesion rather than a granulomatous lesion. Clinically, it presents as a smooth or lobulated exophytic lesion with a sessile or pedunculated base and is manifested as small, red erythematous papules. The colour ranges from pink, to red to purple depending on age of the lesion. Hullihen's (Hullihen, 1844) was the one who has described it first in 1844, however the term pyogenic granuloma or granuloma pyogenicum was introduced by Hartzell in 1904. Excisional biopsy is the treatment of choice however incisional biopsy is advocated in cases where marked deformity is suspected following excision. (Greenberg, 2003). All the local irritants are removed along with surgical excision. Some other treatment options are also available other than surgical excision. Powell *et al.*, (1994) suggested the use of Nd: YAG laser as it causes less bleeding. A recurrence rate of 16% have been seen in cases of pyogenic granuloma (Taira, 1992) so re-excision is advocated. Etiology for recurrence is incomplete excision, incomplete removal of irritants or re-injury at the area (Regezi, 2003).

Conclusion

The World Workshop in 1999 on the Classification of Periodontal Diseases and Conditions included classification criteria for oral contraceptive-induced gingivitis under the subheading gingival diseases modified by medications. As per 2018 Classification of periodontal and peri-implant diseases and conditions, oral contraceptives are potential modifying factors of plaque induced gingivitis. Oral contraceptives though a safe and effective form of birth control, may in some

cases lead to gingival enlargement, difficulty in maintaining plaque control and disease progression. Women taking OC's must be counselled on the importance of oral hygiene and regular dental check ups.

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