

ORAL PATHOLOGIES SEEN IN PREGNANT AND NON-PREGNANT WOMEN

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SUMMARY

The oral health status of a hundred pregnant women and that of one hundred non-pregnant women attending an antenatal clinic and gynaecological clinic respectively at Korle Bu Teaching Hospital was assessed for some common oral pathologies. The doctors and other health personnel managing the pregnant women were also quizzed to ascertain knowledge of any of these conditions. The aim was to find out if any oral condition was particularly prevalent in the pregnant women but not in the non-pregnant women. Our study confirms that in these women, pregnancy has an effect on the oral health status. However this effect is more likely due to the physiological changes associated with pregnancy than any other specific factors. Some oral conditions already present may be influenced by the hormonal changes, which in some cases exacerbate or ameliorate minor oral pathologies. Our findings were similar to that in other studies. However health workers who deal with the pregnant women in these clinics are less aware of these conditions and hence do not usually give any advice.

Keywords: Oral health, pregnant, non-pregnant, Ghana.

INTRODUCTION

It is well known that hormonal changes during pregnancy are associated with oral mucosal changes most of which are reversible clinically¹⁻⁴. The reasons for these changes are not well established. However they can complicate pregnancy⁵. Of all the changes the ones most well written about is pregnancy gingivitis and pregnancy epulis (alternate names – pregnancy tumour, epulis gravidarum, pregnancy granuloma)¹⁻⁴. Other changes associated with pregnancy include chloasma, facial telangiectasia, sialorrhoea, tooth surface loss usually related to vomiting when severe (hyperemesis gravidarum) increased mobility of teeth, changes in the severity of oral aphthae^{3,6,7,8,9,10}. Other observations are less specific and may be part of the gen-

eral state of health. These include mucosal changes seen with anaemia e.g. pallor. Severe mucosal/gingival bleeding, which may or may not be associated with Disseminated Intravascular Coagulation (DIC) may occur⁵.

Knowledge of these conditions is important and most times the effects or the complications arising from them can be minimized and managed satisfactorily until childbirth when these conditions may regress¹⁻⁴. It is also useful that the patient is made aware of the transient nature of some of these conditions and reassured accordingly.

This study was undertaken to identify the presence of these changes in one hundred pregnant women and compared with another one hundred women who were not pregnant and also whether the subjects were aware of the presence of these conditions. They were also asked if any medical staff who had been in contact with them had drawn their attention to these condition or offered any advice. The clinical staff managing these women were also asked if they were aware of these conditions or if they offered any advice to their patients.

METHODS

Women attending a gynaecological outpatient clinic and those attending an antenatal outpatient clinic were asked to take part in this study. Selection was by convenient sampling. A 100 in each group were selected and after confirmation of their pregnancy status clinically by an obstetrician/gynaecologist they were examined around the head and neck (extra-oral and intra-oral examination) by a dental surgeon. The findings were recorded on a WHO oral health assessment form¹¹. Specific oral and extra-oral conditions/pathologies were recorded. Their Community Periodontal Index of Treatment Needs (CPITN) or Basic Periodontal Examination (BPE) scores were recorded separately and have already been reported¹². Lymph node enlargement and facial asymmetry were recorded. The results did not relate to any of

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the oral pathologies and is excluded in the present report. A questionnaire was given to any staff who on the day, was giving advice or treating the pregnant women. There were two main questions. One asking if they knew of any condition in the mouth related to pregnancy and the second was if they ever advised any patient about any such condition. Twelve doctors and 26 midwives/nurses were involved. All findings and data were recorded on the same day during the clinic. Only one patient's progress was followed for three days.

This was because she continued to bleed from the oral cavity until first day postpartum, three days after the initial presentation as an emergency.

Patients were also asked if they were aware of the conditions observed and whether they had received any professional advice from any medical staff (doctor or nurse) in the past or present.

RESULTS

The frequency of specific conditions around the head and neck were recorded and the results shown in Table 1.

Facial hyperpigmentation was difficult to assess and results were based on patients' response to how they perceive their complexion since pregnancy. Though this was recorded it did not form part of our analysis. Overall vascular epulis incidence was 3% amongst the pregnant women and nil among the non-pregnant women (Table 1).

Only one pregnant woman had an aphthous ulcer. However she confirmed that she has had a more severe version of the condition before being pregnant.

Severe gingival bleeding was seen in one patient who was seen as an emergency near term. There were no signs of pre-eclampsia and the bleeding was solely from the oral cavity. All efforts made to control the massive oral haemorrhage failed including infusion of fresh frozen plasma and fresh blood. The condition resolved after first day postpartum. The clinical diagnosis was eventually settled to be DIC however this could not be confirmed with laboratory results.

Health workers had in the past advised 31 of the

Table 1 Extra oral and intra oral findings (frequency)

	Pregnant women 2 nd trimester (n=46)	Pregnancy women 3 rd trimester (n=54)	Non-pregnant women (n=100)
Extra oral			
TMJ ¹ and myofacial pain	2	5	17
Chloasma/facial hyperpigmentation	30	45	1
Total	32	50	18
Intra Oral			
Pregnancy epulis/pyogenic granuloma	1	2	0
Aphthous ulceration (minor)	0	1	3
Aphthous ulceration (major)	0	0	1
Telangiectasia	10	19	3
Tooth surface loss associated with severe vomiting	2	1	0
Severe gingival bleeding (DIC)*	0	1	0
Total	13	24	8

*DIC (Disseminated intravascular coagulation): severe gingival bleeding 1, regressed after labour

¹TMJ = Temporo-mandibular joint

Forty-six of the pregnant women were in the second trimester and 54 in their third trimester (Table 1). The youngest was 15 years and oldest 39 years. Among the non-pregnant women the youngest was 18 years and oldest 45 years.

pregnant women regarding their oral health. Dental surgeons were named as health workers most likely to advise them (Tables 2a, 2b, and 3).

part of the postpartum blues syndrome⁸. This is not

Table 2a Questionnaire response from staff at the clinic

Question: Do you know of any of the above conditions specifically related to pregnancy?	Obstetrician/gynaecologist other doctors (n=12)	Midwife/other nurses (n=26)
Yes	5	11
No	7	15

Table 2b Questionnaire response from staff at the clinic

Question: Have you ever given any advice to a patient regarding any of the above conditions?	Obstetrician/gynaecologist other doctors (n=12)	Midwife/other nurses (n=26)
Yes	4	12
No	6	8
Not sure	2	6

Table 3 Questionnaire response from participants

Question: Who has given you any advice about your oral health since the beginning of your pregnancy?	General Doctors	Dentist	Midwife	Other Nurses	Obstetrician
No. of participants advised by various health workers	1	20	10	3	4

(More than one health worker had advised some of them)

None of the women with any specific oral mucosal pathology had been alerted to the condition and none with oral epulis, aphthous ulceration, gingival bleeding or any of the other specific oral pathologies were aware or worried about their oral condition.

No serious oral pathology e.g. squamous cell carcinoma or pemphigus was seen, though two gingival conditions could be described as desquamative gingivitis amongst the non-pregnant women and not any in the pregnant women.

DISCUSSIONS

Hormonal changes have long been associated with changes in oral health during pregnancy¹⁻⁴. Most of these changes are known to regress after labour, however specific factors do exacerbate some of the conditions. Plaque levels and other local irritants are important in determining the severity and how long any of these conditions persist.

The extra-oral changes of hyperpigmentation and chloasma have been well documented¹³ and are included for completion however in our case it was very difficult to judge it clinically.

Temporo-mandibular Joint (TMJ) symptoms are rarely reported during pregnancy and may be severe during the immediate postpartum period as

unusual as these symptoms are associated with stressful situations. Worried patients need to be reassured and managed accordingly. In this study the total percentage reporting TMJ symptoms was 7% among the pregnant women and 17% among the non-pregnant women. The incidence of the condition in the general population is not known (90% of patients reporting TMJ pain symptoms are female in the USA)¹⁴. The reason for the difference in our study is not clear and may need further study.

Teeth mobility have been associated with the presence of a hormone called relaxin which helps prepare the birth passage way. This may also cause relaxation of the periodontal fibres, which hold teeth in position. This is more likely to be seen towards the end of the pregnancy¹⁵.

Pregnancy epulis (vascular epulides) is more common in pregnancy². It is a form of pyogenic granuloma (lobular capillary hemangioma). The dilated vessels in the gingivae and other oral mucosa may be explained by the same phenomenon that causes telangiectasia on the skin. The relation between these vascular lesions and pregnancy may be due to the high levels of corticosteroids though there is no direct proof of this.

Aphthous ulceration (which are single or multiple ulcers of the inside of the mouth that tend to recur) has been noted to reduce in incidence during pregnancy. Though the mechanism of this ulceration is not known to be due to any one particular factor, diet and cellular immune response (Type IV) may have an influence⁹. Levels of corticosteroids in the body may affect the latter. The condition is known to be severe in the luteal phase of the menstrual cycle⁴.

Tooth surface loss associated with pregnancy was not particularly significant in the study. Severe vomiting was recorded in four patients. These patients had tooth surface loss (erosion) of significance. In these cases the cause was very clear.

Hypersalivation, which was associated with pregnancy in classic literature¹⁵, has not been noted in recent literature⁹. When salivary flow is measured in pregnancy there is no increase. The spitting seen commonly in pregnancy may be more related to the nauseous sensation more than an increase in the flow of saliva¹⁵.

The severe bleeding, which subsided after labour, was new to all who were involved in the management. No literature has been found describing any such condition in the past. In such cases where the pregnancy is near term the correct management may be to induce early labour or similar management as other corrective measures were futile.

The whole study reveals that oral health needs to be incorporated as part of the training of medical students, nurses, postgraduates and other health workers and its importance emphasized.

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REFERENCES

1. Levitt RP. Pregnancy gingivitis. *J Med State Dent Assoc* 1987; 30: 27.
2. MacLeod RI, Soames JV. Epulides: A clinicopathological study of series of 200 consecutive lesions. *BDJ* 1987; 51-53.
3. Carruthers R. Recurrent aphthous ulcers. *Lancet* 1967; ii: 259.
4. Ferguson MM, McKay H, Lindsay DR and Stephen KW. Progesterone therapy for menstrually related aphthae. *Int J Oral Surg* 1978; 7: 463-470.
5. Silverstein LH, Burton CH, Garnick JJ, Singh PB. The late development of oral pyogenic granuloma as a complication of pregnancy: a case report. *Compend of Cont Educ in Dent* 1996; 17: 192-198.
6. Reese HH. Significance of endocrine and vitamin deficiencies as etiologic factors in dental abnormalities. *JADA* 1930; 17(12): 2198-2208.
7. Ferguson MM, Silverman S. Endocrine disorders. In oral manifestations of systemic disease (Eds J.H. Jones and D.K. Mason) Bal-liere Tindall, London 1990; 593-615.
8. Chiodo GT, Rosentein DI. Dental treatment during pregnancy: a preventive approach. *J Am Dent Assoc* 1985; 110: 365-368.
9. Scully C, Cawson RA. Medical problems in dentistry. 4th edition. (Ed Wright) (Butterworth Heinemann) Oxford 1999; 291-293.
10. Bishop PMF, Harris PWR, Trafford JAP. Oestrogen treatment of recurrent aphthous mouth ulcers. *Lancet* 1967; i: 1345-1347.
11. World Health Organisation. Oral health surveys. Basic methods. 4th edition. (WHO) Geneva 1997.
12. Nuamah I, Annan B. Periodontal status and oral hygiene practices of pregnant and non-pregnant women. *East Afri J of Med* 1998; 75(12): 712-714.
13. Kroumpouzou G, Cohen LM. Dermatoses of pregnancy. *J Am Acad Dermatol* 1002; 45: 1-19.
14. TMJ Association Ltd., USA. www.org/basics.16/1/03.
15. Wotman S, Mandel ID. The salivary secretions in health and disease. In diseases of the salivary glands (Eds. RM Rankow and IM Polyes) Saunders, Philadelphia 1976; 32-53.