

Understanding the Dental Need and Care During Pregnancy : A Review

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Summary

This paper reviews the oral and dental lesions that are seen during pregnancy. Trimester approach should be adopted in the management of the pregnant patients. A good dental preventive programme is essential. The significance of prescribing fluoride supplements and the use of dental radiography during pregnancy is also briefly reviewed.

Key Words: Pregnancy, Dental need, Dental care

Introduction

As early as 1928, the importance of prenatal dental care has been recognised. However, dentists were warned to treat pregnant women only if an emergency condition was present. Nowadays, while it is common to encourage postponement of elective dental treatment until after the baby is born, this should not be interpreted to mean that pregnant women should avoid dental care. In fact, pregnant women need more prenatal dental attention; not less or only whenever necessary. This is because they are more prone to develop certain pregnancy associated lesions.

This paper reviews the commonly occurring pregnancy associated lesions. The advantage of the trimester approach in managing these patients is highlighted. The importance of good preventive dental care even before pregnancy is emphasised. The significance of prescribing fluoride supplements and the use dental radiography during pregnancy are also discussed.

A. Pregnancy Associated Lesions

Various oral and dental lesions have been found in pregnant women. This may be a sign of pregnancy associated conditions like anaemia or may be an entity that is more prone to occur in pregnant women due to the hormonal changes of pregnancy. Certain lesions like dental caries has been blamed on loss of calcium from the teeth. The following is a review on some common pregnancy associated lesions and manifestation that is seen in the oral cavity, namely anaemia, epulis, gingivitis, tooth mobility and dental caries. It is hoped that medical practitioners may find some useful information from this review to educate their pregnant patients.

I. Anaemia

Pallor of the oral mucosa may be detected during pregnancy. This is an indication that the mother is suffering from anaemia, most probably due to iron deficiency. Iron deficiency anaemia is a consequence of the

increased iron requirement for the formation of foetal red blood cells. The iron requirement usually increases by 1000 mg during pregnancy¹ and this can be met by giving the patient iron supplements. The role of the dentist is more towards detecting this condition and making the appropriate referrals.

II. *Pregnancy Epulis*

There is an increase in frequency of pregnancy epulis/tumours in pregnant women, mostly during the second trimester². Pregnancy epulis histologically mimics a pyogenic granuloma². It happens as a result of exaggerated inflammatory response to local irritation¹. It presents as a painless exophytic swelling on the gingival margin or interproximal spaces. It is usually found in the canine-premolar region. Pregnancy epulis bleeds easily during tooth brushing or when disturbed.

Excision is indicated when pregnancy epulis interferes with chewing, tooth brushing or oral hygiene procedures. It can be removed easily using surgical blades or laser but the patient must be cautioned that it may recur. Otherwise, it will normally subside after delivery.

III. *Pregnancy Gingivitis*

Pregnancy gingivitis is common during pregnancy even in those with good oral hygiene prior to pregnancy³. It has been suggested that this is due to hormonal changes during pregnancy⁴. The increased level of certain hormones like progesterone and oestrogen causes the gingiva to swell up^{5,6}. Plaque may get trapped underneath the swollen area because of this. Routine oral hygiene care will be more difficult. It has also been suggested that there is an accentuated response to dental plaque during pregnancy¹.

Patients may find that their gingiva bleeds spontaneously or during tooth brushing. They must be reassured that there is nothing wrong with their brushing technique and should be encouraged to continue routine dental care without avoiding the bleeding area(s). Normally, the gingiva will stop bleeding when the affected site(s) is/are properly cleaned.

IV. *Teeth Mobility*

In addition to the gingival changes, generalised teeth mobility can be observed². This is possibly caused by some qualitative changes in the fibrous portion of the periodontal ligament⁷. This does not contribute to severe periodontal problems with lots of mobile teeth, provided the pregnant patient maintain good oral hygiene. This condition normally settles after delivery.

V. *Dental Caries*

There has been claims that there is an increased incidence of caries during pregnancy. However, this is more of an indirect result of pregnancy. For example, due to gingival tenderness, the patient is prevented from maintaining good plaque control. This will ultimately cause increased caries formation due to the accumulation of plaque².

Some pregnant women are prone to develop morning sickness. The regurgitation of gastric acids may lead to enamel demineralisation². Besides, mothers are often advised to eat frequent, smaller amounts of carbohydrate-containing food to compensate for the decreased stomach capacity. This leads to more frequent exposure to acid challenges². In addition, some pregnant women have a craving for specific foods. These may be sour foods which contain high level of acid or sticky food with a high concentration of sucrose.

Oral hygiene procedures and frequent water rinses will help prevent decalcification due to morning sickness or exposure to lots of acidic food¹. If vomiting continues, the dentist is able to provide daily topical application of fluoride gels that will help reduce enamel decalcification. Otherwise, flexible mouthguards can be fabricated for the application of neutral sodium or stannous fluoride gels¹.

B. *Treatment Planning*

Triage

Treatment planning begins with appropriate triage. Emergency procedures like the management of severe odontogenic infection should be performed at any time with careful planning and care from the medical practitioner to minimise adverse effects⁸. Urgent procedures that can be delayed like minor oral surgeries following pericoronitis are best performed after the first

trimester. Completely elective procedures like the removal of benign epulis are best postponed until six weeks postpartum⁹.

I. Trimester Approach

The trimester approach recommends that the ideal dental treatment should include two visits during the first trimester, at least once during the second trimester and once during the third trimester¹⁰.

The first visit should include a clinical examination coupled with review of the most recently available radiographs. Areas that could possibly pose a problem or discomfort before delivery should be scheduled for restoration during the second trimester. Emergency treatment and updating history and medications can also be done at this initial visit. It should also include prevention counselling. The patient should be educated on the more common dental problems illustrated above and the appropriate action taken to prevent or treat these problems.

The second visit during the first trimester is needed to check the patient's compliance of home oral hygiene instruction, to observe hormone-related tissue changes discussed above and to reinforce prevention instructions if the patient is found to be neglecting it.

The second trimester is the ideal time to perform dental treatment. The patient is usually more comfortable and is still able to recline in the dental chair. During this time, dental treatment proceeds as for any other patients, but precautions noted previously should be observed.

A preventive oral care may be scheduled in the early third trimester. Appointments for these patients should be kept as brief as possible.

II. Reinforcement

For the pregnant patients who require no dental treatment during the second trimester, a single visit is sufficient. Patients who have no dental disease or home care deficiencies at this appointment may be excused from the third trimester appointment¹⁰. Postnatal dental care for the new-born may be emphasised at this visit. Patients with mild to moderate gingivitis should have another scaling procedure.

C. Radiography

Although it has been known that the dental diagnostic radiograph causes minimal radiation to the foetus, it should nevertheless be avoided during pregnancy¹¹. Usually the most recent films available in the patient's dental chart will be sufficient during the nine months of pregnancy¹⁰.

Radiographs should only be taken for emergency indications during the first trimester¹. When radiographs are essential, a properly shielded and collimated beam and high speed film are required. Proper collimation and shielding of the equipment restrict the size of the primary beam and reduce scatter radiation. The patient's abdomen needs to be shielded with a lead apron.

D. Preventive Measurement

I. Plaque Control

Pregnant patients must be taught the role of plaque in causing dental caries and periodontal problems. They should be encouraged to develop a good tooth brushing and flossing habit. Plaque-disclosing tablets can be used to highlight the area not properly cleaned. They should be advised to brush after each snack that contains sugar. Oral lavage of acid is required after regurgitation due to morning sickness¹². The pregnant patient should be educated that through the efforts of increased plaque control alone, most dental diseases associated with pregnancy like gingivitis and caries can be avoided¹³.

Some patients may avoid dental treatment altogether during pregnancy out of fear of adverse effects on the fetus and because of social taboo. For the patient receiving regular dental care, this brief absence from the dental office is not a problem. However, avoiding necessary treatment out of ignorance is unwise. They should be educated regarding the need for dental care during this period.

II. Nutritional Support

Nutrition and diet are important areas of preventive dentistry for the mother and fetus¹⁰. Nutritional deficiencies can cause hypoplastic enamel in the primary incisors¹⁴. There are nutritional guidelines that document ideal levels of all nutrients before, during and

after pregnancy and the patients should be advised to refer to them.

It is not true that the mother "loses a tooth for every child", a notion which stems from the mistaken belief that dental caries occurs due to the loss of calcium from the teeth to the growing fetus. Studies have shown that calcium is bound to the tooth structure and it cannot be reabsorbed into the circulation like that of the bony skeleton. The pregnant patient should be made aware of this fact and advised not to blame pregnancy for their dental caries.

III. Fluoride Supplementation

The value of prenatal fluoride supplementation to prevent future caries in the child has been controversial and not been confirmed. Neither does the American Academy of Pediatrics nor the American Academy of Pediatric Dentistry recommend prenatal supplementation ².

Some studies have shown that teeth morphology would have relatively flat occlusal surfaces with no deep pits or open fissures if prenatal fluoride supplement was given ¹⁵. Despite this finding other researchers conclude that there is no biologic rationale for prenatal fluoride administration ¹⁶.

At the moment, there is still no adequate information regarding the efficacy of prenatal fluoride supplementation. There is suggestion that the fluoride supplements

are not needed by those who live in fluoridated communities ¹⁰. Others suggested that in fluoridated areas, the optimal dosage of fluoride supplements is of 1.0 mg fluoride ion (2.2 mg) once daily on an empty stomach from the third month of pregnancy to term ¹. In non-fluoridated areas, 1.5 to 2.0 mg daily is recommended ^{15,17}.

Conclusion

Medical practitioners should encourage all patients of childbearing age to seek oral health counselling and examinations by dentists as soon as they are diagnosed to be pregnant. This would break the taboo of wrong belief that dental treatment should not be undertaken during pregnancy. They should be made aware of some pregnancy associated lesions and the treatment available.

Elective dental treatment should be avoided during the first trimester. When necessary, emergency procedures can be performed anytime during pregnancy and elective surgery scheduled during the second trimester.

Dental radiography is safe, but must only be done for emergency cases. Minor dentoalveolar surgery and periodontal therapy can be performed without difficulty during week 13 through 24 and later, depending on the comfort of the patient. However, consultation with the patient's physician is always advisable.

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