Dental care during pregnancy

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ABSTRACT

QUESTION Many of my patients have asked me if they should defer dental treatment until after they have given birth. Is there any risk associated with performing dental treatments during pregnancy?

ANSWER Appropriate and timely dental care can lead to improved pregnancy outcomes as well as greater comfort for the woman. The treatment of periodontitis, as well as the use of local anesthetics, amalgams, and x-ray scans, does not pose an increased risk to the developing fetus and is, in fact, important in contributing to maintaining optimal health for mother and baby.

RÉSUMÉ

QUESTION Bon nombre de mes patientes me demandent si elles devraient reporter leurs soins dentaires après l'accouchement. Y a-t-il des risques à faire effectuer des traitements dentaires durant la grossesse?

RÉPONSE Des soins dentaires appropriés et opportuns peuvent améliorer l'issue de la grossesse et le bien-être de la femme. Les traitements de périodontie, l'administration d'anesthésiques locaux, les amalgames, et les examens radiologiques ne constituent pas un risque accru pour le fœtus en développement et contribuent en réalité de manière importante au maintien d'un état de santé optimal chez la mère et le nourrisson.

Poor oral health can adversely affect a person's quality of life. Pain, missing teeth, and infection can influence the way people speak, eat, and socialize, affecting their physical, mental, and social well-being. There is an association between oral disease and health problems such as diabetes and pneumonia, and there might be a link between oral disease and heart disease, stroke, and preterm and low-birth-weight (LBW) babies. Gingivitis, the mildest form of periodontal disease, is characterized by gum inflammation, bleeding, redness, tenderness, and sensitivity. Periodontitis, a more severe form of disease, results in loss of connective tissue and bone support, and is a major cause of tooth loss in adults.[1]

The American Academy of Periodontology and the American Dental Association both state the importance of maintaining oral health throughout pregnancy. A recent US survey, however, showed that most women did not visit the dentist during pregnancy; half of women who reported oral problems did not seek care because they believed poor oral health during pregnancy was normal or they feared dental treatments could harm the fetus.[2] Also, 49% of obstetricians rarely or never recommend a dental examination[3]; only 10% of dentists perform all necessary treatments; and 14% of dentists are against using local anesthetics during pregnancy.[4,5] This is concerning, as poor oral health can lead to adverse pregnancy outcomes, including preeclampsia,[6,7] preterm birth,[8] and LBW babies.[9] Beginning in the second or third month of pregnancy, about half of pregnant women experience gingivitis due to increased estrogen and progesterone, which can progress to periodontitis. To maintain oral health, dental treatments such as plaque removal, scaling and root planing, local anesthetics, amalgams, and x-ray scans must be employed.

Periodontal therapy

A study of 823 pregnant women at 13 to 21 weeks' gestation found that scaling and root planing for periodontitis using local anesthetics as needed did not increase adverse fetal outcomes; however, it did lower preterm birth rates.[8,10] Additionally, a randomized controlled trial of 870 women with pregnancy-associated gingivitis found that treatment (ie, plaque control, scaling, and daily rinsing with 0.12% chlorhexidine) and maintenance (ie, oral hygiene instruction and manual supragingival plaque removal every 2 to 3 weeks until delivery) significantly reduced the preterm birth or LBW rate ($P=.0009$).[11]

Local anesthetics

The use of local anesthetics as an adjuvant in 823 pregnant women with periodontal therapy did not increase adverse fetal outcomes.[10,11] In addition, an update in the *Journal of the Canadian Dental Association* maintains that it is safe to use local anesthetics during pregnancy; however, it also underlines that aspiration must be carried out to minimize the likelihood of intravascular injection.[12]

Amalgams

Amalgam, a mixture of 50% metallic mercury and other metals, has advantages over other restorative materials[13]; however, there is concern that mercury can be released as vapour, ions, or fine particles, which can be inhaled or

ingested. Although mercury is a toxin, its release from dental amalgam is minimal—estimated to be 10 µg/d, whereas the World Health Organization's maximum recommended intake is 2 µg/kg/d.[14,15] Hydrogen peroxide, a common bleaching agent, can increase mercury release, so avoidance should, be considered.[16] Health Canada states that amalgams should not, if possible, be placed or removed during pregnancy,[14] which might be a rather conservative approach, as studies and case reports of amalgam exposure during pregnancy have not documented any toxicity, including birth defects, neurologic sequelae, spontaneous abortions, or reduction in fertility.[17-19] In a database study, there was no association of cumulative amalgam exposure in 1062 births categorized as having "complications of pregnancy and childbirth."[20] A case-control study of 1117 LBW infants found no association between LBW and placement of amalgam during pregnancy.[21]

X-ray scans

The estimated fetal dose in a single dental exposure is 0.01 mrad. It is known that doses less than 5 rad are not associated with increased congenital malformations[22]; therefore, dental x-ray scans should not be cause for concern. A UK epidemiologic study of a cohort of 7375 mothers did not find a significant association between use of dental x-ray scans and LBW or preterm delivery.[23] In addition, to put things into perspective, a case-control study found no overall increased risk of childhood brain tumour after exposure to prenatal abdominal x-ray scan, which produces many times higher radiation exposure than dental x-ray scans.[4]

Conclusion

Dental treatment is essential for optimal oral health, which extends to pregnancy. Routine dental visits can include the use of x-ray scans, plaque removal, dental scaling and polishing, local anesthetics, or amalgam fillings. Performing interventions for prevention and treatment of periodontitis or using local anesthetics during pregnancy have not been found to be associated with an increased risk to the developing fetus. Conversely, adverse pregnancy outcomes, such as LBW, preterm birth, and preeclampsia, occur in women who have not received treatment. Furthermore, using amalgams or dental x-ray scans during pregnancy has not been shown to increase risk to the fetus. Good oral health during pregnancy is important to the overall health of both expectant mothers and their babies.

Competing interests
None declared

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MOTHERISK

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