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Basic Science Question:
When is the safest time to administer local anesthetic for dental care during a pregnancy and why?
Report:
<p>Use of local anesthetic in dental procedures requires attention to patient medical history to prevent adverse effects against the patient. When treating pregnant patients' additional considerations must be made as other complications may arise toward the health of both the mother and fetus. In a review by Lee and Shin (2017), several considerations are discussed to determine how to treat pregnant patients with anesthetic both safely and effectively. One major consideration to be made is determining the safest time of administering local anesthetic to pregnant patients. The mother and developing fetus are continually changing during the different stages of pregnancy. In the first trimester, which spans from week 1 – 12, the embryo develops into a fetus with major structures such as limbs, development of organs, and the ability to move. Birth defects may develop when exposed to chemicals that can act as teratogens during this period of time as organs are being developed. During the second trimester, which spans from week 13 – 27, major organs are in place, and the baby continues to grow. At this time, teratogenic effects are lower, making it safer to use local anesthetic. Lee and Shin (2017) do note that starting from week 20, there is an increased risk for hypotension when pregnant women lay on their back due to compression of the abdominal aorta and inferior vena cava by the uterus, known as aortocaval compression. This may also decrease blood flow into the uterus which would have harmful effects toward the fetus. During the third trimester, which spans from week 28 – 40, the uterus is enlarged which could lead to higher risk for developing aortocaval compression syndrome. It may be possible to alleviate the symptoms of aortocaval compression by adjusting patient position. Thus, the authors concluded that the safest time to administer local anesthetic for dental care to pregnant patients would be after the first trimester and ideally before the 20th week.</p>
References:
Lee JM, Shin TJ. Use of local anesthetics for dental treatment during pregnancy; safety for parturient. J Dent Anesth Pain Med 2017; 17: 81-90.