Hej Susanne, kan du vänligen dela ut denna meddelande till alla deltagare i gårdagens symposium, här finns några svar till gårdagens frågor:

Dihydrocodeine
Lactation: Metabolized via CYP2D6 to the active metabolite, dihydromorphine, which has a potency similar to morphine. Dihydromorphine is excreted in the urine. Same precautions as for codeine.

Clonidine:
Pregnancy: A potential for decreasing blood pressure to the extent that may affect uterine blood flow. Studies in animals and in a small number of children have suggested possible long term neurodevelopmental problems including hyperactivity. Use preferably should be restricted to short-term.
Lactation: Repeated dosing in mothers causes serum levels in infants that reach up to nearly 70% of mother's serum concentration, therefore repeated use is not recommended. Clonidine used as a single postpartum dose as an adjunct in neuraxial analgesia may reduce the need for other medications and is acceptable.

Enalapril:
Lactation: Enter milks in very small amounts, considered compatible during breast feeding.

Dexmedetomidine:
Lactation: Limited data indicate low passage into milk. Short-term use should not be a problem.
Pregnancy: Used in parturients, seems to have a favorable effect on blood pressure and heart rate. Passes the placenta, concentration in umbilical vein appr 60% of maternal concentration. Has been used successfully as part of general anesthesia in pre-eclamptic patients. Can also reduce the risk of postoperative adverse effects such as nausea and vomiting, ad has been used successfully in postoperative sedation. Possible protective effect when administered together with potentially neurotoxic anesthetics (propofol, midazolam, ketamine. esketamine).

Anesthetics:
None of the agents have proven teratogenic in early pregnancy but data are limited. GABA-receptor agonists have induced apoptotic neurodegeneration and inhibition of synaptogenesis and myelinization in experimental animal studies. In human, neuronal proliferation, migration and synaptogenesis peak in the 2nd trimester continuing in the 3rd trimester and thereafter. Exposure to neurotoxic drugs during the rapid phase of CNS maturation could potentially affect neurodevelopment.
Propofol and midazolam are among the anesthetic agents included in the US FDA safety warning regarding possible adverse effects on brain development after prolonged or repeated use during pregnancy. Current recommendations state that when possible, exposure duration > 3 hours to propofol or midazolam be avoided. Fentanyl or dexmedetomidine have been suggested as first-line agents for sedation.
There are limited data on ketamine and esketamine during pregnancy. These drugs are generally avoided during pregnancy. Ketamine has been neurotoxic in animals similarly as the GABA agonists. Altered fetal heart beat-to-beat variation and increased uterine tone and contractions, even in early pregnancies (undergoing termination) have been reported. Rise in maternal blood pressure is also possible.
Recommendation:

- First line treatment: fentanyl or dexmedetomidine
- If possible, propofol and midazolam to be avoided if length of sedation exceeds 3 hours
- Ketamine not recommended

Thiopental. Animal studies and limited experience in humans during early pregnancy has not suggested an increased malformation risk. More experience during later pregnancy and appears relatively safe. No data on long-term neurodevelopment after exposure.

Literature:

Olutoye OA, Baker BW, Belfort MA, Olutoye OO. Food and Drug Administration warning on anesthesia and brain development: implications for obstetric and fetal surgery. Am J Obstet Gynecol 2018 ;218:98-102.
Shan Y et al. Dexmedetomidine protects the developing rat brain against the neurotoxicity wrought by sevoflurane: role of autophagy and Drp1-Bax signaling. Drug Des Devel Ther. 2018 ;12:3617-3624.
Eskandr AM et al. Dexmedetomidine as a part of general anaesthesia for caesarean delivery in patients with pre-eclampsia: A randomised double-blinded trial. Eur J Anaesthesiol. 2018;35:372-378.
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