Safety and Ethics of Cosmetic Procedures in Pregnancy

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General Principles

- Discuss risks & benefits, lack of controlled trials
- Defer nonessential surgical procedures until at least the 2nd trimester
- Use of Categ B medications (lidocaine, penicillins)
- Do not pre-treat with topicals deemed unsafe (retinoids, hydroquinone)
- Surgical positioning: left lateral decubitus

Treatment NOT recommended

- Physiologic changes that may rebound in gestation and can improve postpartum
  - Melasma & hyperpigmentation
  - Hypertrichosis with procedures aimed at permanent hair removal
  - Striae

Injectable & Topical Anesthetics

- Lidocaine (Categ B): max. dose 4.5 mg/kg or 300 mg
  - Inadvertent amniotic injection or use of ↑ volumes may put the fetus at risk for cardiac/CNS toxicity
- Mepivacaine (Categ C): fetal bradycardia, preterm labor
- Topical anesthetics
  - Lidocaine & prilocaine safe (Categ B)
  - Lidocaine 2.5%/prilocaine 2.5% safe (pedi); not near ocular surfaces, methemoglobinemia with ↑↑ prilocaine doses
  - Tetracaine (Categ C): eyelid/periocular procedures; laceration suturing
  - Benzocaine (Categ C): methemoglobinemia in infants

Hemostasis

- Electrocoagulation & radiosurgery: safe
- Minimize pt exposure to smoke during procedures such as electrocautery & radiosurgery
- Epinephrine (Categ C): deemed safe with the dilutions & amounts used in derm surgery (↑↑ levels can cause ↓ uterine blood flow or uterine artery spasm)

Minor Surgical Procedures: safe

- Skin tag removal (snipping, shaving, LN2)
- Removal of other benign lesions (seborrheic keratoses, dermatosis papulosa nigra, other benign soft tissue tumors)
- Shave/punch removal of nevi
- Removal of hemangiomas (electrocautery, radiosurgery)
α- and β-Hydroxy Acid Peels

- **Glycolic Acid**
  - negligible dermal penetration; no true safety data
  - safe acne Rx in pregnancy (Rupel C. Hautarzt 2013;64:269-73)

- **Lactic acid (LA)**
  - LA 2% has been used for gestational acne
  - negligible dermal penetration

- **Salicylic Acid (SA)**
  - systemic absorption if applied over large areas and/or under occlusion (absorption of 5-10% SA as high as 25%)
  - Jessner (resorcinol, SA, LA)
  - contains SA, avoid in pregnancy; if used, apply on limited areas

TCA and Phenol Peels

- **Trichloracetic Acid (TCA) 10-30%**
  - Rx of condylomata safe (Schwartz DB et al. AJOG 1988)
  - maternal exposure to ↑ TCA doses a/w IUGR; such doses not used in derm procedures
  - avoid in pregnancy (risk of dermal penetration)
  - avoid systemic absorption through the ocular or oral mucosa (Lee et al. Dermatol Surg 2013)

- **Phenol**: avoid (risk of dermal penetration)

Neuromodulators: reports

- **Reports on Onabotulinum Toxin A (1st trimester injections)**
  - De Oliveira Monteiro (2006): 54 U & 65 U; no AEs (2 cases) - COSMETIC
  - U Yim (2018): 65 U; no AEs (case report)
  - Newman (2004): 300 U (a 3 mos over 1 pregnancies); no AEs (1 case)
  - Bodkin (2005): 200 U; no AEs (1 case)
  - Morgan (2006): dose? 1 miscarriage (h/o spont abortions) (16 pts)
  - Bodkin (2005): 500 U; 1 miscarriage (h/o spont abortions) (1 case)
  - Kuckzowski (2007): dose? no AEs (1 case) - COSMETIC
  - Jain (2017): 500 U; postherpetic neuralgia; no AEs (2 cases)
  - Hooft (2015): 100 U; achalasia; no AEs

Neuromodulators: data

- **Botulinum toxin: not expected in systemic circulation following im or intradermal injection (Tan et al, Can Fam Phys 2013)**

- **Botulinum toxin type A (BTX-A): may not pass through placenta (large molecular weight)**

- **Botulism in pregnancy (7 pts) contracted at 16, 23, 36 wks: no a/w fetal AEs; no botulinum toxin in infant serum**

- **High doses of onabotulinum toxin (>600 U), much higher than in cosmetic procedures , a/w with systemic weakness**

Neuromodulators: conclusions

- **Safety data: reassuring**

- **Probably safe (negligible systemic absorption, no placental transfer)**

- **Substantial legal risks**

- **Pregnancy should be considered as a contraindication to cosmetic BTX-A treatment (include in consent forms)**
Sclerotherapy

- Sclerosing solutions: can cross placenta polidocanol: not rec by manufacturer
- No increased maternal/fetal risk in case reports/series with common sclerosants (Reich-Schupke et al. Vasa 2012; 41:243-7)
- Varicose veins that develop in pregnancy may improve pp ~ conservative Rx & wait 6-12 mos after pregnancy prior to Rx

Laser Therapies

- CO2 for condylomata acuminata
  - 6 studies: no complications; 1 PROM (healthy neonate)
- Nd:YAG
  - case reports (acne, gingival PG): no AEs
  - fetoscopic laser photocoagulation
- Pulsed dye laser
  - safe for PGs (case reports)
  - safe for ureteral calculi

Fillers and Epilation

- Fillers
  - outcomes not studied; hyaluronic acid (HA) mimics composition of body’s HA
  - lido amounts in fillers << recommended max. dose
  - potential risks from inadvertent arterial injection of lido mixed with filler
- Epilation
  - permanent Rx: electrolysis, lasers; not rec
  - concerns about electrolysis using galvanic current because amniotic fluid acts as a conductor of electricity

Ethical Dilemmas

- Case scenarios of pregnant pts requesting BTX-A or sclero-Rx recently discussed (Kroumpouzos & Bercovitch, Int J Womens Dermatol. 2018)
- The health care provider should decide whether one ethical principle may have more merit than others in the ethical conflict (ACOG, 2007; ACOG Committee on Ethics, 2009)
- The well-being of the fetus & moral obligation of ‘no harm’ (beneficence-non-maleficence) take priority over the cosmetic needs of the mother

References