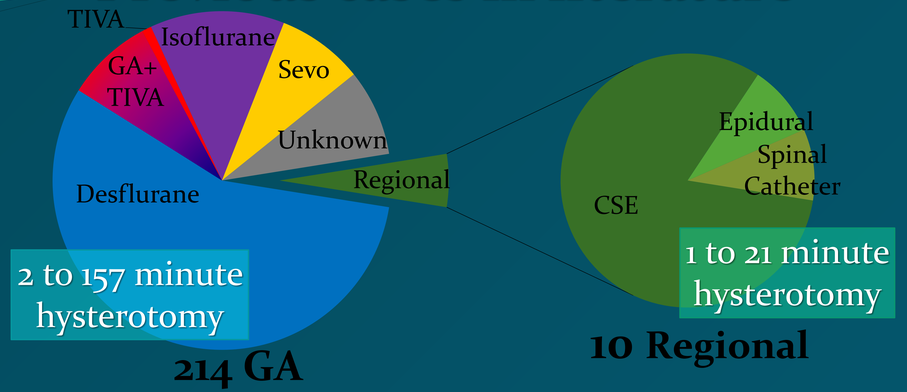
Spinal anaesthesia for EXIT procedure
(ex utero intrapartum treatment)

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Previous cases in literature[1]



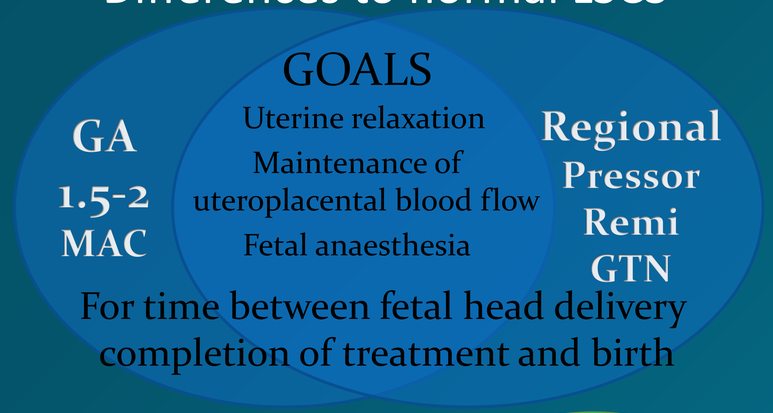
Likelihood of fetal surgical procedures during EXIT

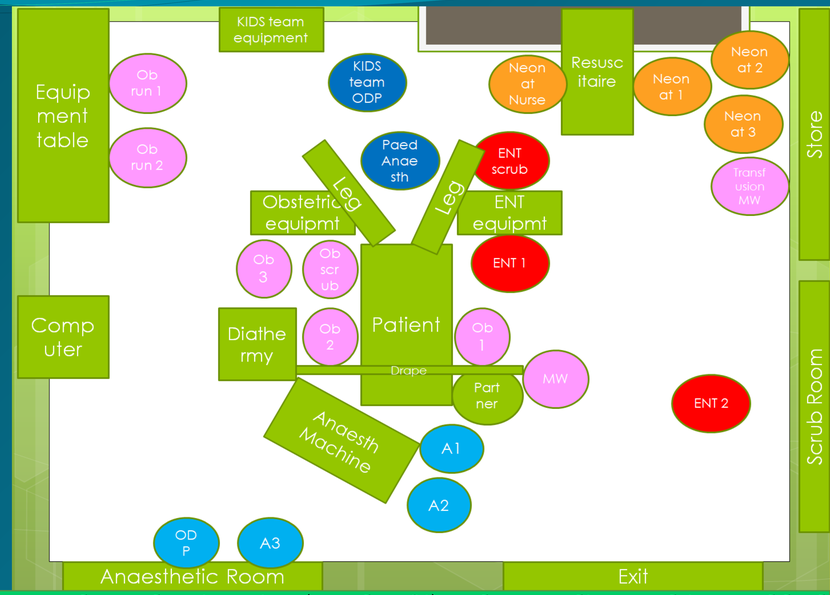
Airway Compression: Tracheo-Esophageal Displacement Index 12mm or greater[2]

Solid masses (eg teratoma) 53-67% (vs lymphatic 8-11%)[3,4]

Polyhydramnios[5]

Differences to normal LSCS





Case: 35yo, P3+1

- Epidural, Forceps, 3rd Degree Tear. PDPH. Blood Patch
- Elective C/S, difficult spinal, USS
- Elective C/S, difficult spinal, USS
- XR Lumbar puncture for headache

Despite this, desperate for regional technique

BMI 37, 111 kg, MP1

Mild asthma, COVID-19 2 months prior

Uncomplicated GA for laparoscopic cholecystectomy

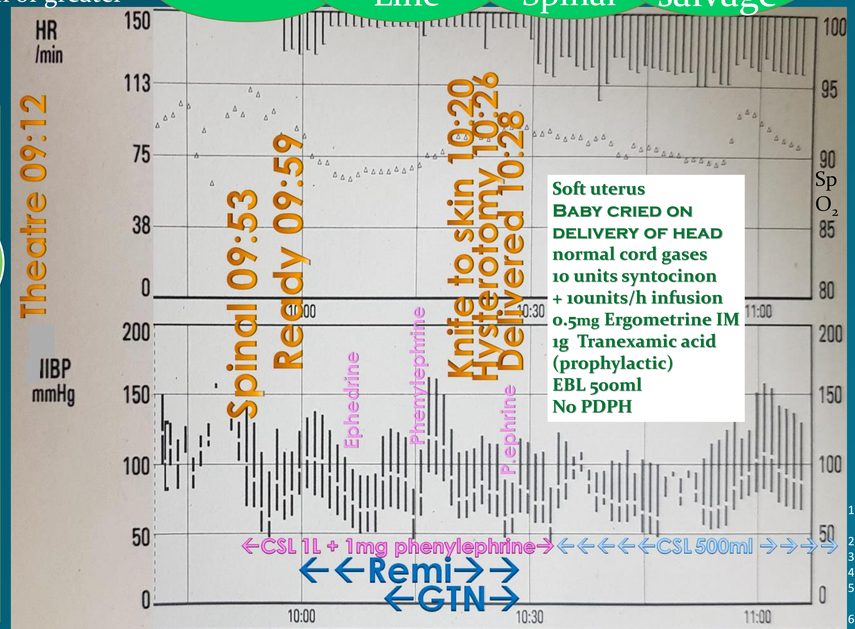
Needlephobic

Fetal Ultrasound:

Cystic mass inferior to chin in right parapharyngeal space, no solid components, likely lymphatic malformation. Airway deviated to left but patent. Lungs normal and no extension into chest.

5.6 x 4.7 x 3.4 cm

2 x 16G | Arterial Line | US Spinal | Cell salvage



Spinal: 13.5mg heavy bupivacaine (2.7ml 0.5%) and 300µg diamorphine, T4 block

Remifentanil : 2mg/40ml, Minto TCI, to light sedation (3.5$_{ng/ml}$ by knife to skin)

GTN: 50mg/50ml, increased gradually to 15ml/h (2.5µg/kg/min), titrating vasopressor

Lessons:

Beware over-enthusing benefits of regional in difficult patients:

this patient accepted less familiar treatment in order to avoid general anaesthesia

Maternal counselling important – theatre busy, GA may be easier to manage

MDT discussion beforehand, prediction of duration of hysterotomy and fetal surgery

With good preparation and monitoring, time before knife to skin can be minimised

Manage Uterine tone: low during hysterotomy, resulting higher PPH risk

Fetal Anaesthesia/analgesia: remifentanil pharmacokinetics variable[6]

prepare to give supplemental drugs to fetus intrapartum IM/IV: needed in 38% cases [1]

Maintain Uteroplacental perfusion: Arterial line aids quicker titration of vasopressor

Thorough team brief and pre-planned lines of communication

1. Kumar K, Miron C, Singh SI. **Maternal anesthesia for EXIT procedure: A systematic review of literature.** 2019 J Anaesthesiol Clin Pharmacol. 2019 Jan-Mar;35(1):19-24. doi: 10.4103/joacp.JOACP_302_17. PMID: 31057234; PMCID: PMC6495613.
2. D.A. Lazar, O.O. Olutoye, et al. **Ex-utero intrapartum treatment procedure for giant neck masses–fetal and maternal outcomes**, J. Pediatr. Surg. 46(2011) 817–822.
3. S.A. Steigman, L. Nemes et al. Fauza. **Differential risk for neonatal surgical airway intervention in prenatally diagnosed neck masses**, J. Pediatr. Surg. 44 (1) (2009 Jan) 76–79.
4. P. Laje, M.P. Johnson et al. **Ex utero intrapartum treatment in the management of giant cervical teratomas**, J. Pediatr. Surg. 47 (6) (2012 Jun) 1208–1216.
5. Jiang S, Yang C et al. **Ex utero intrapartum treatment (EXIT) for fetal neck masses: A tertiary center experience and literature review**. Int J Pediatr Otorhinolaryngol. 2019 Dec;127:109642. doi: 10.1016/j.ijporl.2019.109642. Epub 2019 Aug 13. PMID: 31479918.
6. Kan RE, Hughes SC, et al. **Intravenous remifentanil: placental transfer, maternal and neonatal effects**. 6, 1998, Anesthesiology, Vol. 88, pp. 1467-74.