Multidisciplinary Management for Cesarean Delivery in a Patient with Fulminant Hepatic Failure

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Acute liver failure due to accidental acetaminophen toxicity in third trimester pregnancy is an uncommon, yet life-threatening, presentation that requires prompt multidisciplinary coordination for maternal and fetal well-being.

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Presentation

- 23-year-old G2P1001
- Tobacco use, opioid use disorder in remission without current pharmacotherapy, anxiety
- Presented at 36 weeks and 5 days with nausea, emesis
- Prior 4 days took acetaminophen 1-2 grams every 2-3 hours for odontalgia
- Started on broad spectrum antibiotics for gingival abscess
- Significant transaminitis (peak several thousands) and new coagulopathy (INR 3.4)
- Initiated N-acetylcysteine in obstetric intensive care unit

Preoperative Management

- Hepatology evaluation, consideration for transplant candidacy
- Given vitamin K supplementation
- Repleted with 4 units fresh frozen plasma
- Transaminases continued to increase despite NAC therapy
- Irregular contractions
- Recurrent late decelerations prompted urgent primary cesarean delivery

Monitoring:

- Preoperative arterial line, central venous catheter

Anesthetic:

- Proceeded with general anesthesia after weighing risks-benefits

Perioperative Course

- Rapid sequence induction with intubation via video laryngoscopy
- No excessive hemorrhage
- Viscoelastic testing without notable abnormalities
- Neonate: Apgar score 8 at both 1 and 5 minutes, transferred to NICU triage for continued care
- Multimodal pain management: ketorolac, hydromorphone, bilateral TAP prior to extubation
- Postoperative: remarkable improvement in hepatic function
- Discharged postoperative day 4 with referrals: addiction medicine, oral and maxillofacial surgery

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Teaching Points

- Acetaminophen is the most common overdose in pregnancy[1]
- Early treatment can facilitate positive maternal and fetal outcomes, even in the third trimester[2]
- Etiology of acute liver failure in pregnancy is strongly associated with morbidity and mortality[3]
- Rapid complex care coordination is essential for optimal patient outcomes

1. Wilkes J., et al., South Med J, 2005. 98(11).
2. Byer A., et al., JAMA, 1982. 247(22).
3. Casey L., et al., Hepatology. 2020. 72(4).