

Sickle Cell Disease & Pregnancy: Enhancing Outcomes with POCUS

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Case Description:

26 year-old-cisgender female, h/o sickle cell disease, s/p BMT with >100 previous blood transfusions, previous abdominal surgeries, G2P1 at 36w6d presented to L&D with abdominal pain for R/O labor; w/ baseline Hb of 8.8. The patient continued to have abdominal pain throughout the peripartum course.

Postoperatively, a bedside POCUS exam was done revealing a small fluid collection in the splenorenal recess. The patient developed a fever and was found to have a rectus sheath hematoma and an intraabdominal fluid collection on CT.

Anesthetic Course:

After oxygenation and serial transfusion with no avail, augmentation of labor was started with Pitocin. An epidural was placed at the L4-5 interspace, with a loading dose followed by programmed intermittent epidural bolus dosing. The epidural was replaced 32 hrs later at L2-3 due to c/o intractable pain. The patient underwent a primary LTCS at 37w1d for failed IOL, under a spinal epidural, c/b an EBL of 1.6L. A TAP block was performed in PACU.

SCD Management:

Pregnant women with sickle cell disease (SCD) are at increased risk of complications prior to delivery such as pre-eclampsia, worsening hemolytic anemia, intrauterine growth restriction, vascular fragility, and hypercoagulability. Pregnancy in patients with SCD can exacerbate underlying multiorgan damage and increase risk of acute chest syndrome. Post-operative issues include infections, anemia, and pain crises from vaso-occlusive conditions.³ Current SCD treatments such as hydroxyurea and ACE inhibitors can be harmful due to their teratogenic effects and suppression of bone marrow.² These complications highlight the need for vigilant monitoring and proactive care for pregnant women with SCD.



Discussion:

Early POCUS would aid with detecting cardiac or pulmonary abnormalities, blood clots, fluid management, and intra-abdominal bleeding. It can check for placental abnormalities that might increase the risk of hemorrhage, identify intra-abdominal fluid, which could be bleeding from internal organs, or hematomas. By assessing the size, location, and impact of any hematomas or blood clots, POCUS helps detect complications as it is immediately available and prevents delays in waiting for standard imaging. POCUS can monitor uterine contractions and tone during labor, and immediately before and after a C-section, to help detect any issues that could lead to excessive bleeding. Timely intervention is crucial if excessive bleeding is detected. The plan for pregnant patients with SCD include monthly antenatal follow-up, prophylactic aspirin for preeclampsia prevention, prophylactic blood transfusions, and interdisciplinary coordination amongst teams.¹ Early use of POCUS can lead to earlier diagnosis so individualized precautions are taken. This helps avoid serious complications and improve outcomes.

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