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A Case of DIC in the third trimester following intrauterine fetal death: An indwelling neuraxial catheter dilemma

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CASE DESCRIPTION

A healthy 35 year-old G5P4 female with four previously uncomplicated vaginal deliveries presented at 37 4/7 weeks with a 3 day history of absent fetal movement. Ultrasound examination revealed intrauterine fetal demise (IUID). She was admitted for induction of labor with misoprostol and oxytocin. An epidural was placed for analgesia and successful fetal delivery occurred three hours later.

Approximately two hours following delivery, the patient was noted to have significant vaginal bleeding and was brought emergently to the operating room for evaluation and repair of a cervical laceration under anesthesia administered via the in situ epidural catheter.

Given the severity of the bleeding and the patient's ill appearance, the epidural catheter was not manipulated and subsequent laboratory findings revealing disseminated intravascular coagulation (DIC). Trace bleeding was noted at the epidural catheter site. Serial labs were monitored and the patient was treated with 4 units of fresh frozen plasma, 5 units of packed red blood cells, 1 unit of platelets and 2mg of oral Vitamin K.

The patient demonstrated full reversal of her coagulopathy after approximately 36 hours (Fig. 3) after which her epidural catheter was safely removed.

The patient was uneventfully discharged home two days later without any neurologic or hematologic sequelae.

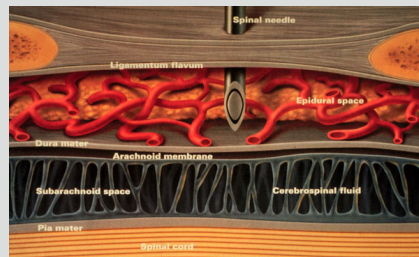


Figure 1. Needle in epidural space with neighboring vasculature

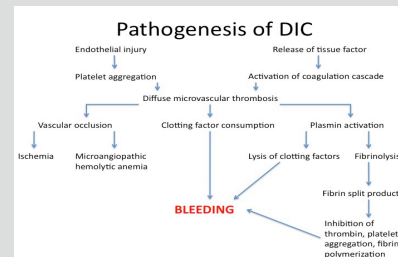


Figure 2. DIC pathogenesis

	PT (sec)	PTT (s)	INR	Platelets	Fibrinogen (mg/dL)	D-dimer
baseline	10.2	28.1	1.0	193,000		
T=0	19.6	46.6	1.8	87,000	22	35.2
T+8 hrs	13.2	35.4	1.2	72,000	144	7.14
T+24 hrs	11.1	29.6	1.0	78,000	188	5.31
T+36 hrs	11.9	29.6	1.0	82,000	186	3.82

Figure 3. Laboratory findings

DISCUSSION

Acquired peripartum coagulopathy presents unique challenges for the anesthesiologist. While abruption is the most common overall cause of DIC in pregnancy, the incidence of coagulopathy in IUID is higher and may be present in 10% or more of cases¹. DIC increases the tendency for hemorrhage (Fig. 2) and epidural hematoma, a surgical emergency. For this reason, coagulation studies are reasonable to obtain in cases of suspected coagulopathy as this represents a contraindication to initiating neuraxial techniques.

Management of epidural catheters that are in place prior to an acute change in coagulation status may be particularly troublesome. Many would argue that catheters should not be removed until coagulopathy has been reversed¹, however leaving an epidural in place not only may be a nidus for infection but also a foreign body that risks hematoma formation if it were to migrate into a neighboring blood vessel (Fig. 1).

Once our patient demonstrated stability of her coagulation cascade (Fig 3., INR <1.5) in addition to being free of the underlying cause of her abnormality via fetal delivery, the decision was made to remove the epidural catheter in according to ASRA and institutional guidelines. Neurologic assessments were continued for 24 hours following removal.

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