



Delayed diagnosis of disseminated intravascular coagulation after vaginal delivery due to laboratory systems issue – a case report and root cause analysis

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Disseminated intravascular coagulation (DIC), a catastrophic complication with high morbidity and mortality, requires prompt recognition and treatment

Delayed recognition of DIC due to laboratory system processes surrounding grossly abnormal coagulation results

Root cause analysis (RCA) identified actionable changes

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Time	15:54	16:00	16:40	17:11	17:27	17:30	17:44	18:58
Patient Events	Methergine + hematoma ? abruption HR 110 BP 110s/60s	To OR 2 nd PIV QBL 750 mL HR 120s, BP stable ++ bleeding 1 st MTG activated	EBL 2-2.5L albumin 500mL 2.5L LR pRBC started HD stable A-line placed ? Arterial bleed	Clinical DIC Vaginal packing RIASTAP 1g	2 nd MTG activated RIASTAP 5g	HD unstable epi 100 mcg	GETA	Transport to IR Total admin albumin 500 mL LR 6L pRBCs 8U FFP 7U Plts 2 packs Cryo 20 mL RIASTAP 7g CaCl 4g, TXA 1g

Time	16:11	16:23	16:32	16:40	16:46	17:11	17:27	18:05	18:15
Lab Events	CBC DIC panel TEG	Specimen in lab	<u>CBC</u> Hct 35.6	RN called lab for results Repeat labs	<u>iSTAT</u> Hct 19	No DIC/TEG results lab said “re-running”	<u>Fibrinogen</u> undetectable INR 7.5	<u>TEG</u> unable to quantitate	<u>D-dimer</u> > 20,000

DIC panel number	Time Sent Superstat	Time lab received	Time Resulted	Time to Result
1	16:11	16:16	18:14	2 hrs 3 minutes
2	16:37	16:40	18:14	1hr 37 minutes
3	16:57	17:00	17:55	58 minutes
4	17:35	17:40	18:25	50 minutes
5	18:30	18:38	19:15	45 minutes

Learning Points

Labs not used in clinical decision-making that required significant processing removed

- Thrombin time
- D-dimer

Notify clinical team when labs require auto-repeat to avoid diagnostic delays

Management of DIC requires aggressive and expedient replacement of coagulation factors and fibrinogen

