

Multi-disciplinary management of acute Stamford type A aortic dissection in a pregnant patient at term.

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Learning objectives:

- Clinical presentation of acute aortic dissection.
- Diagnostic steps and modalities.
- Considerations for transfer to cardiothoracic centre.

Presentation:

Written consent obtained to share case report.

25yo primigravida presented at term with episodic chest pain. BMI 24, ex-smoker, worked as clinical psychologist. Nil obstetric history. 1 episode of shortness of breath in 1st trimester prompted an echo which was reported as normal, aorta within upper normal limit.

History of complaint: 1 week of intermittent, central chest pain radiating to right scapula associated with shortness of breath.

Investigations: Normal CXR and V/Q scan. Serum troponin <5ng/ml and CRP <5mg/L.

Seen by obstetric anaesthetic team during episode of chest pain.

Focused bedside echo showed a grossly enlarged aortic root.

Urgent CT angiogram: Dissection flap from root of aorta to below the diaphragm.

Referred to cardiothoracic surgeons. IV labetalol commenced, IV morphine for analgesia, right radial arterial line and 2nd 16g PVC inserted.

Transfer:

Consultant anaesthetist, IABP, IV labetalol.

2 ambulances required due to staff numbers: patient, anaesthetist, obstetrician, anaesthetic nurse, midwife, neonatologist and neonatal nurse.

Equipment taken: Neonatal resucitaire, blood products, peri-mortem CS set, adult anaesthesia equipment and drugs.

“Threat to life” urgent ambulances.

Presentation

Abrupt, severe, episodic, tearing chest pain which can resolve spontaneously

Catecholamine discharge

Tachycardia, hyperhidrosis, anxiety and transient ST elevation

Challenging diagnosis

15% have normal ECG, 15% have a normal CVR
30% have normal TTE

Imaging

CT aortogram

Anti-impulse therapy

IV labetalol infusion to prevent propagation of dissection flap

Transfer

Time critical. Right radial arterial cannula. May need 2 ambulances for staff

Operative management:

Consented for LSCS and open repair of aorta (risk of death 35-42%).

Left radial arterial line and RIJ CVC inserted awake. TIVA GA dual lumen endotracheal tube.

Baby delivered by LSCS, bakkari balloon and abdominal drain inserted as to be anti-coagulated for bypass.

8-hour open repair including deep hypothermic circulatory arrest for arch repair.

Post-op:

Extubated day 1 post-op. Cardiac HDU for 6 days. Returned to local postnatal unit for prolonged course of IV abx for pelvic collection.

Discharged 6 weeks post presentation with nil residual sequale.

Mum underwent genetic screening for possible underlying cause, nil found, baby not tested.

Discussion:

Can present with normal preliminary investigations¹.

Aortic dissections account for 11% of maternal cardiac deaths (despite incidence of 0.8 per 100,000 pregnancies)².

Prompt diagnosis and frequent multi speciality closed loop communication was essential in securing this good outcome.

References:

1:Hagan P, Nienaber C, Isselbacher E et Al. The International Registry of Acute Aortic Dissection (IRAD): New Insights into an Old Disease. JAMA. 2000, 283; 7: 897-903

2:UK Obstetric Surveillance System and National Perinatal Epidemiology Unit. Aortic Dissection report 2009-11.