Managing Heart Failure in Pregnancy or Post Partum

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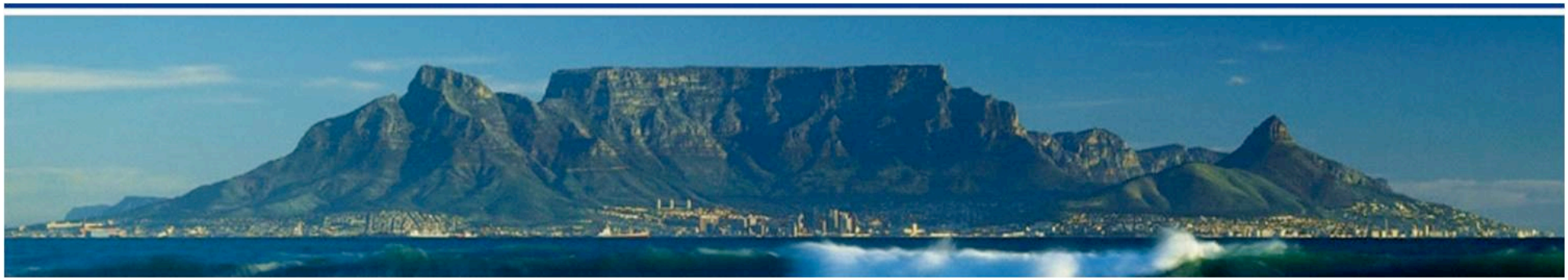

Case 2

- 25 year old women
- Sudden onset of shortness of breath 4 weeks prepartum
- Medical Hx: Nil (no HT, no FHx, not smoking)
- Examination:
  - Obese (104 kg)
  - HR 120 bpm
  - BP 180/110
  - JVP raised
  - Lungs: pulmonary oedema

Case 2

- **Differential diagnosis**

1. **Pulmonary Embolus**
2. **Pre-excisiting Hypertension**

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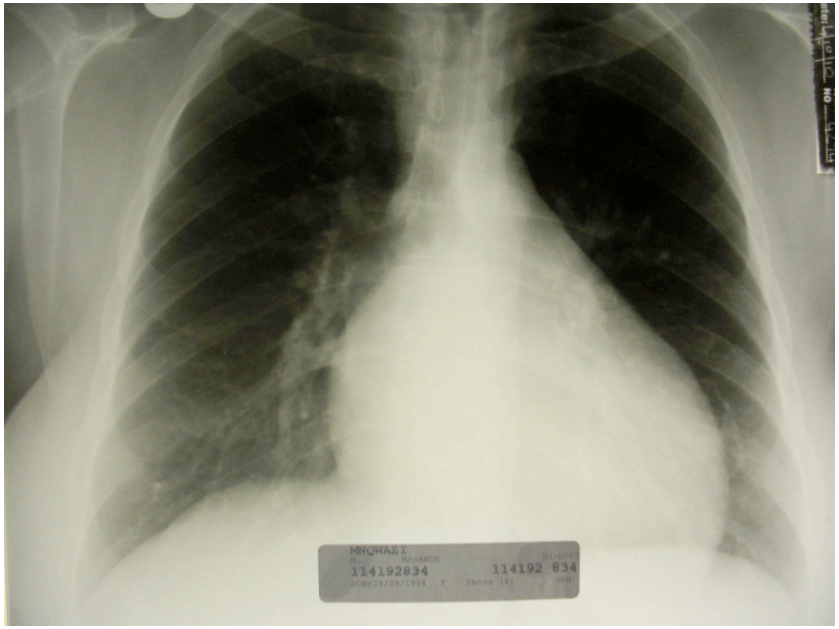
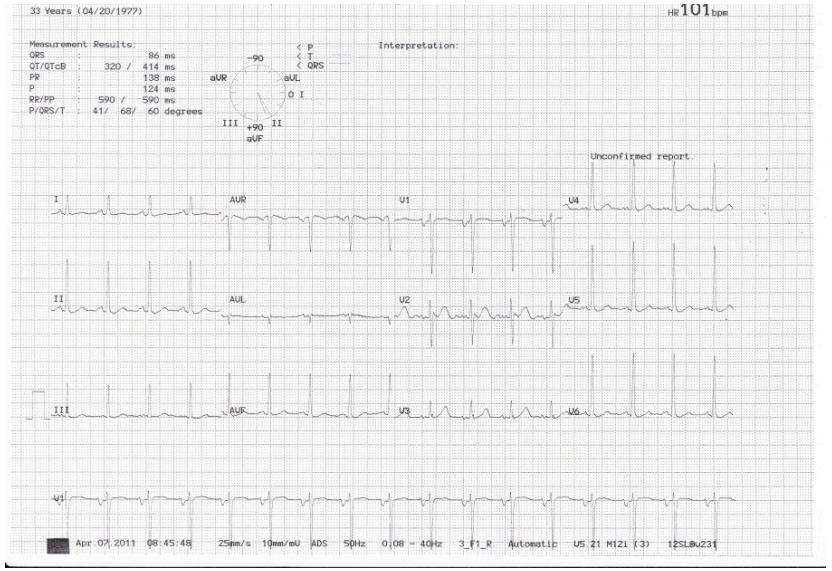
Case 2

- **CXR and ECG:**

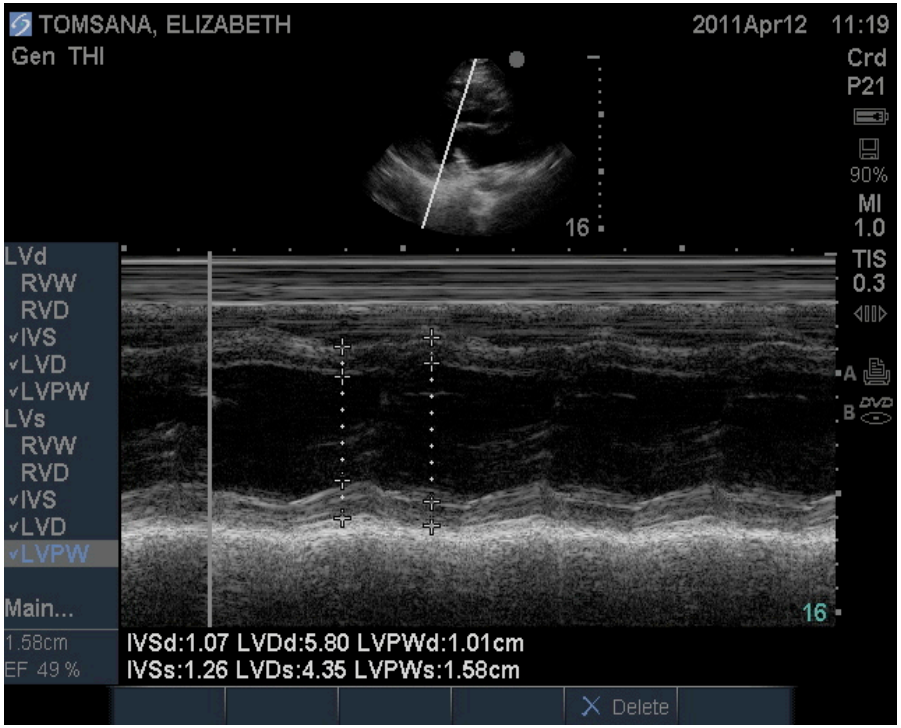


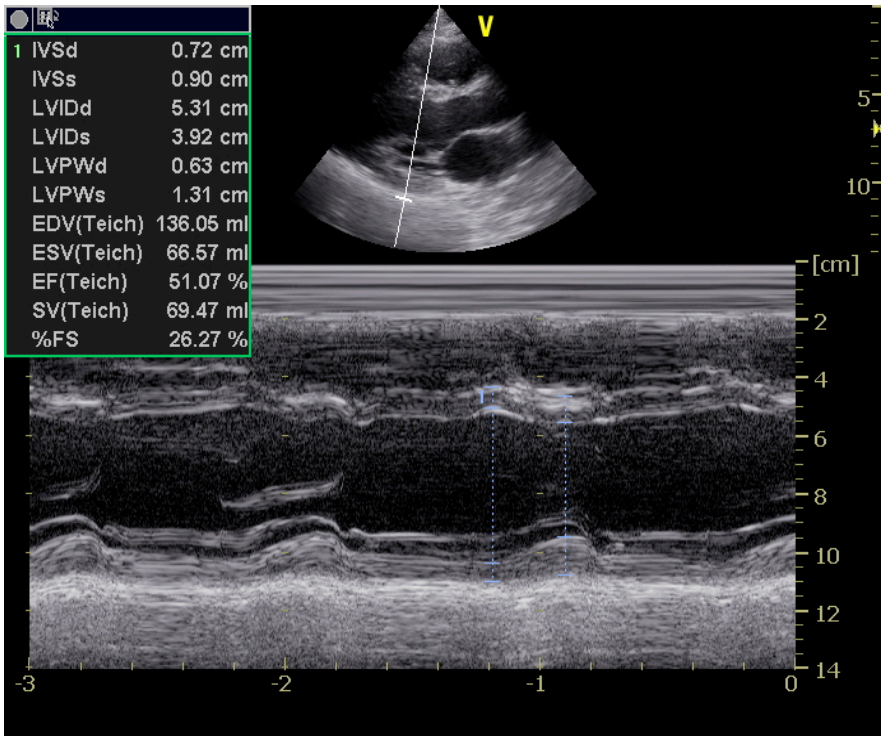


Case 2

❖**echocardiography:**

11.20.24 hrs __[0007230].mp4





Case 2

Blood tests: HIV negative, D-dimers negative, normal
Thyroid function test

<u>Diagnosis:</u> Hypertensive Heart Failure

Management of patient according to time of presentation

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Effect on fetus

Not pregnant	Early pregnancy	Late pregnancy	Post partum
According to standard heart failure guidelines	Diuretics Hydralazine Beta blocker	Diuretics Hydralazine Beta blocker	Diuretics Ace-inhibitor Beta blocker

Acute heart failure

Managing acute heart failure due to PPCM/HT in pregnancy is no different than that applied to acute HF arising from any other cause

Oxygen - in order to achieve an arterial oxygen saturation of ≥95 %, using, where necessary, non-invasive ventilation with a positive end-expiratory pressure (PEEP) of 5-7.5 cm H_2O.

Intravenous diuretics, when there is congestion and volume overload with an initial bolus of furosemide 20-40 mg i.v., is recommended.

Intravenous nitrate is recommended (e.g. nitroglycerine starting at 10-20 µg/min up to 200 µg/min) in patients with a systolic blood pressure > 110 mmHg and may be used with caution in patients with SBP between 90-110 mmHg.

Inotropic agents should be considered in patients with a low output state, indicated by signs of hypoperfusion

PPCM-management of chronic heart failure

After delivery PPCM/HT heart failure should be treated in accordance with the current guidelines
During pregnancy the following restrictions to these guidelines apply:

Drug	Indication
ACE-inhibitors and Angiotensin-II receptor blocker (ARBs)	Contraindicated because of serious renal and other foetal toxicity (I-C). AT1-receptor blockers probably cause similar toxicity.
Hydralazine and long acting nitrates	It is believed that this combination can be used safely, instead of ACE-inhibitors/ARBs, in patients with PPCM.
Beta-blockers	Not shown to have teratogenic effects. Beta-1 selective drugs preferred because beta-2 receptor blockade can have an anti-tocolytic action.
Diuretics	Should be used sparingly as can cause decreased placental blood flow
Furosemide and hydrochlorothiazide	Most frequently used
Aldosterone antagonists	Spironolactone thought to have antiandrogenic effects in first trimester. Eplerenone - effects on the human foetus uncertain, avoid during pregnancy.

Breast feeding

Based on the postulated negative effects of prolactin subfragments *(Hilfiker-Kleiner Cell 2007),* breastfeeding is not advised in patients with suspected PPCM, even if this practice is not fully evidence-based.

Several ACE-inhibitors (captopril, enalapril and quinapril) have been adequately tested in breastfeeding women.

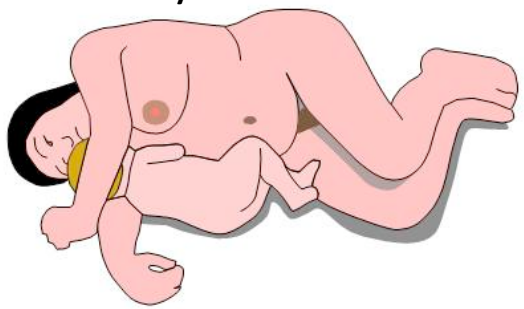
Timing and mode of delivery

A team comprising a cardiologist, obstetrician, anaesthesiologist, neonatologist and intensive care physician) should discuss the planned mode and conduct of delivery in each case.

The primary consideration should be maternal cardiovascular benefit.

In general, spontaneous vaginal birth is preferable in women whose cardiac condition is well controlled, with an apparently healthy foetus.

Planned Caesarean section is preferred for women who are critically ill and in need of inotropic therapy or mechanical support.



Bonding 4.06.10

Questions?