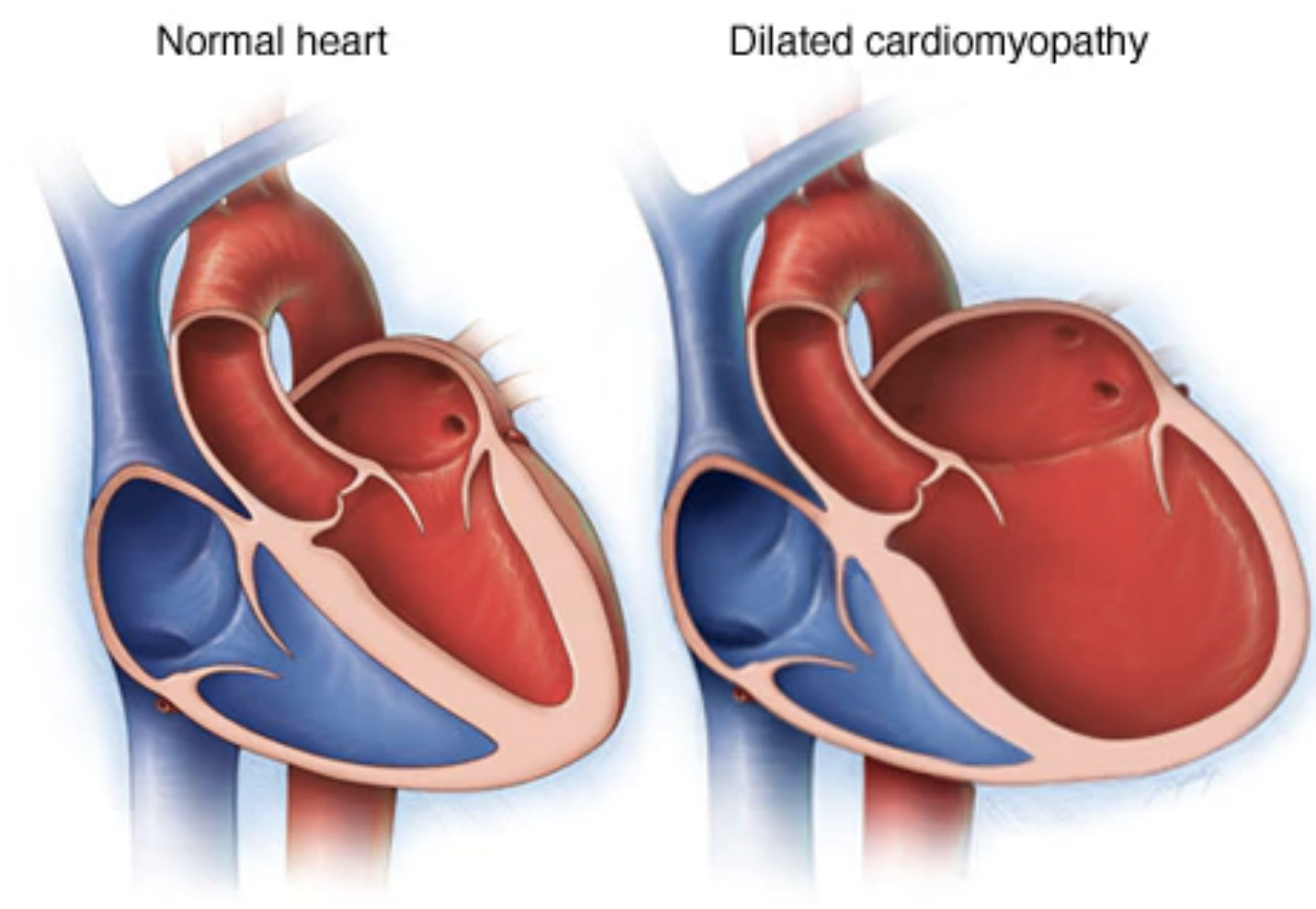




Background

- Peripartum cardiomyopathy (PPCM) is a rare form of **dilated cardiomyopathy defined by systolic heart failure**, which occurs up to 5 months post-partum.^[1]
- Its aetiology is unclear, however risk factors include:
 - gestational hypertension,
 - pre-eclampsia,
 - older maternal age and
 - black ethnicity.
- It is thought to affect 1 in 2000 women giving birth and is associated with significant maternal mortality.^[2]



Normal heart Dilated cardiomyopathy

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There is often a delay in recognising PPCM as its symptoms are consistent with those of the normal peripartum state. **Fatigue, dyspnoea and peripheral oedema are common features, thus it is commonly misdiagnosed.**

Case

- A 41-year-old lady was seen in our medical Ambulatory Care Unit with shortness of breath.
- She was six weeks post-partum following an uneventful pregnancy and normal vaginal delivery.
- She had been experiencing shortness of breath for 4 weeks and persisting peripheral oedema since delivering.
- Past medical history: asthma and depression.
- Family history: nil significant.
- Medication: nil.

She was referred to unit by her GP to rule out a pulmonary embolism.

Assessment

On examination:

- heart rate 130bpm, resp rate 20, sats 97% OA, BP 138/81
- Heart sounds: gallop rhythm
- Chest: clear, good air entry
- Calves: soft non tender, minimal bilateral pitting oedema

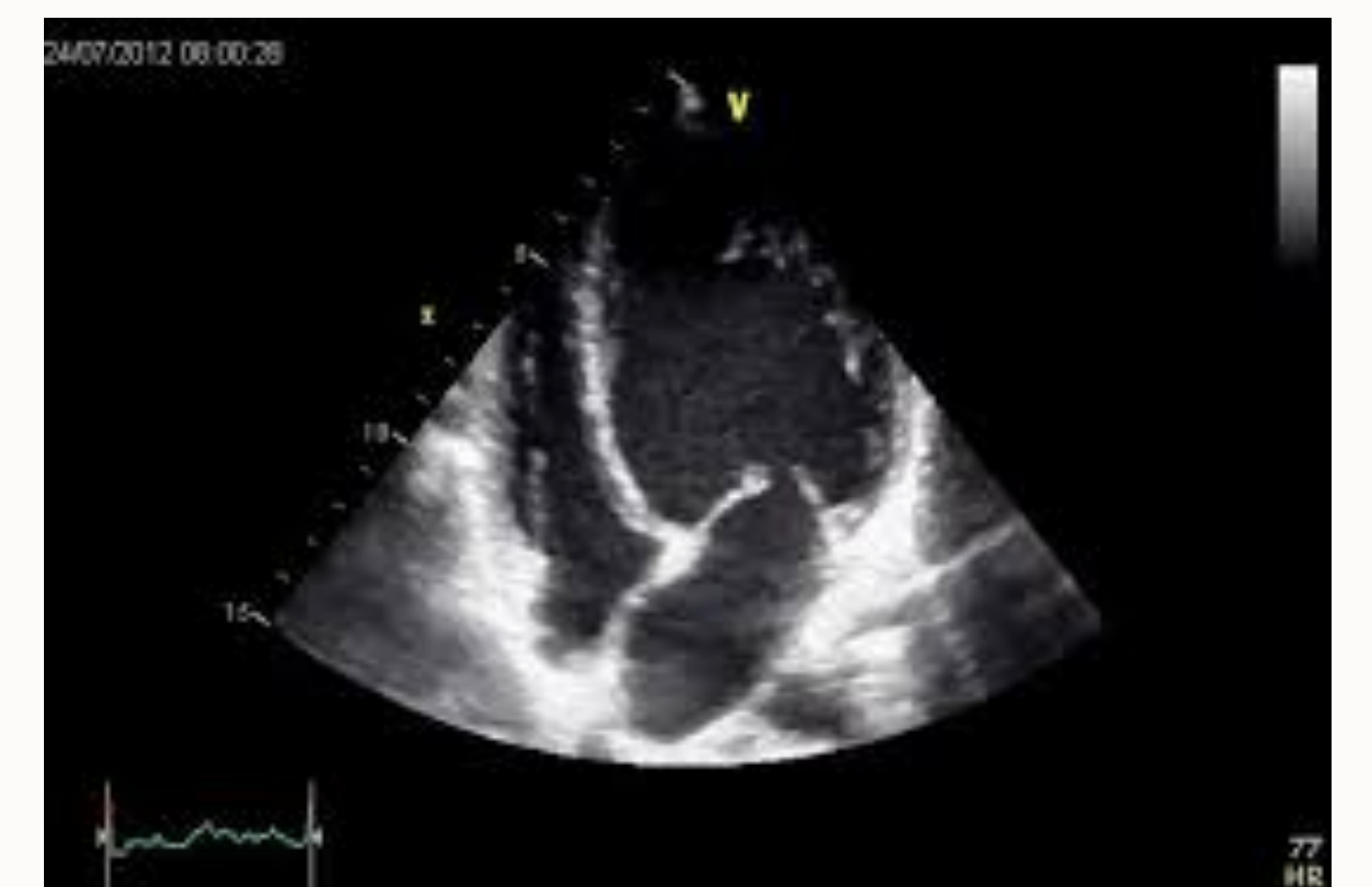
Investigations:

- Bloods: NAD
- ECG: rate 116 bpm, right bundle branch block.
- CXR: borderline cardiomegaly, right sided pleural effusion.
- A CT Pulmonary Angiogram was performed and was negative for venous thromboembolism, however it showed evidence of **left ventricular dilation and bibasal pleural effusions.**

Diagnosis

An urgent echocardiogram was arranged and she was found to have:

- Dilated left ventricle (LV)
- Severely impaired LV systolic function
- Mildly impaired right ventricular function
- Ejection fraction (EF) of <10%.**



She was urgently admitted to the cardiac care unit for management.

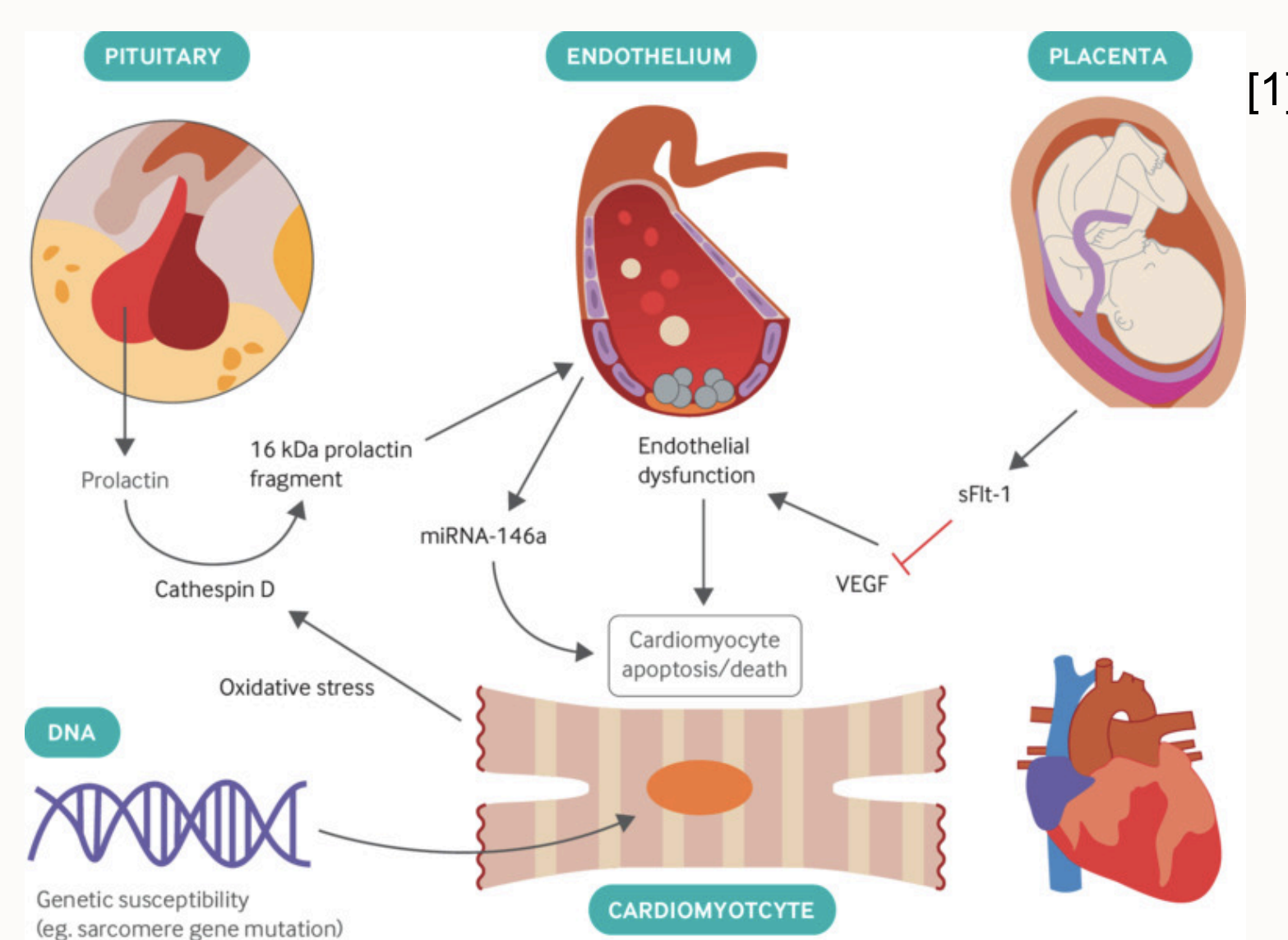
Treatment

- Treatment was initially diuresis with Ivabridine, Spironolactone, Metoprolol and Furosemide. Of note, diuresis must be performed with caution during pregnancy, as it could result in uterine hypoperfusion.
- 11 days following admission, a cardiac volume MRI scan was performed showing that her ejection fraction had improved from 11 to 18%.
- The findings were consistent with non-ischaemic dilated cardiomyopathy.
- In the absence of any alternative causes for cardiomyopathy or pre-existing heart disease, a diagnosis of postpartum cardiomyopathy was made.**
- She was discharged with follow up under the heart failure team.

Discussion

Pathophysiology

- Current research suggests that pregnancy hormones cause a vascular insult, which can induce cardiomyopathy in women with an underlying predisposition, such as a family history of dilated cardiomyopathy.
- Myocyte damage is caused by increased secretion of microRNA-146a by the endothelium. This is upregulated by sFlt-1 which is secreted by the placenta, particularly at the end of pregnancy, as well as increased levels of serum prolactin during pregnancy and postpartum.^[3]



Future Pregnancies

- The European Society of Cardiology have advised: "When the EF has not recovered to >50–55%, subsequent pregnancy should be discouraged. Even with normalized EF, counselling is required due to potential recurrence."^[4]

Conclusion

- Peripartum cardiopathy is a rare but serious complication, often seen in previously healthy women.
- Presenting with symptoms similar to that of normal pregnancy, it can be easily missed.
- Both obstetric and medical doctors should consider PPCM as a potential diagnosis in patients presenting with shortness of breath and peripheral oedema.
- With a high recurrence rate, patients should be counselled regarding the risk of future pregnancies.

This case study wishes to highlight the similarity in symptoms seen in pregnancy, PPCM and pulmonary embolism, as well as emphasizing the importance of recognising the condition early.

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