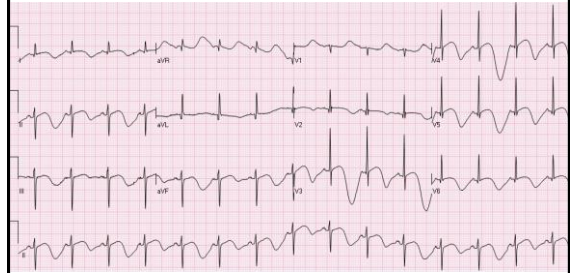


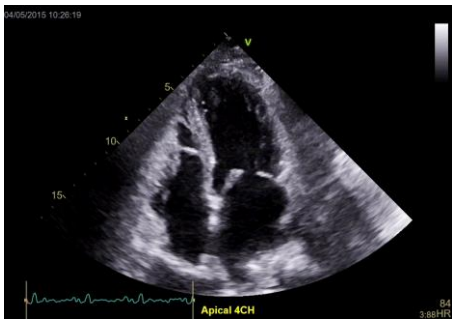
# What becomes of the broken hearted?

Stephen Glen

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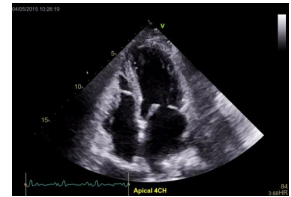
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## What do you think her coronary angiogram shows?

1. Mid LAD stenosis
2. Ostial LAD stenosis
3. LMS stenosis
4. RCA occlusion
5. Normal



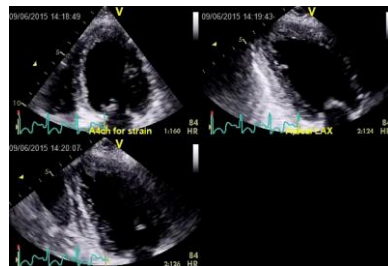
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## Progress

- CT coronary angiography normal
- Clinical diagnosis of Takotsubo syndrome
- Managed medically with ACE-I
- LV function recovery followed by echocardiography
- Anxiety / depressive disorder under active management

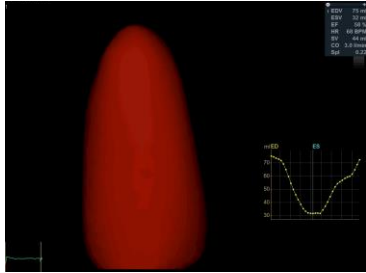
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## Four weeks later



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## Six months later



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## 81 yrs, female

- Sudden onset dyspnoea, choking, chest pain
- Background of benign oesophageal stricture
- Due repeat bouginage
- No cardiovascular history
- Rx - omeprazole

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## Assessment

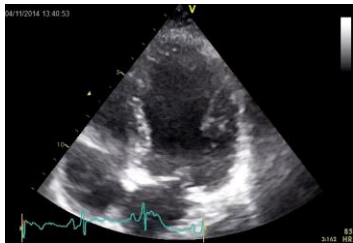
- Gaspng / panicking, SaO2 88%, HR 130/min (sinus)
- Heart sounds normal
- Chest - large airway wheeze and stridor
- Pulses equal, BP 178/110, no difference between sides

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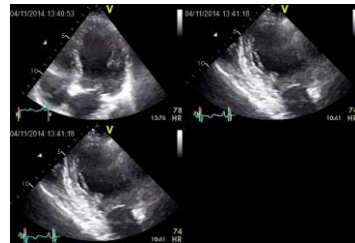
## Progress

- Intubated, ventilated
- Endoscopy to remove oesophageal obstruction
- Bronchoscopy
- Troponin 3480

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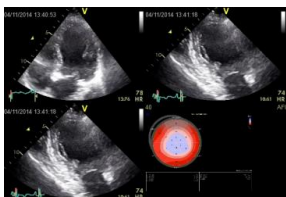
Advanced Echo 2018



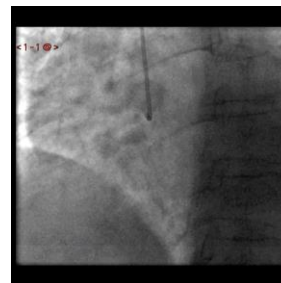
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## What do you think her coronary angiogram shows?

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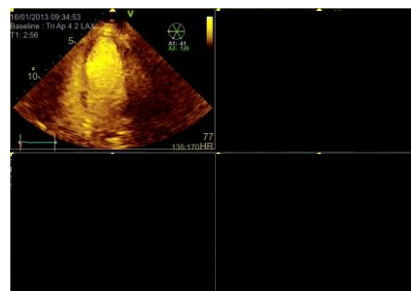


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## 58 yrs, female

- Exertional dyspnoea, difficult to characterise chest pain
- Longterm antidepressant Rx
- Unable to perform exercise test (mechanical back pain)
- Referred for stress echo

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## Progress

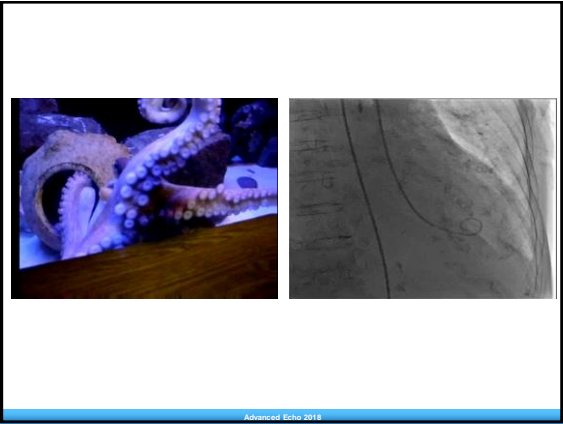
- Normal coronary angiography
- Medical management of risk factors
- Physio / exercise

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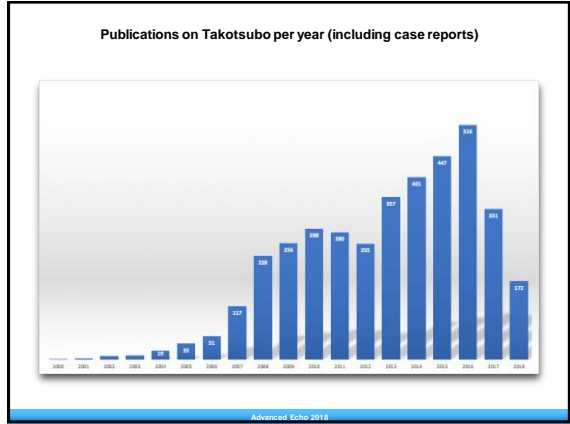
## Takotsubo syndrome

- First reported in 1990 (Sato) in Hiroshima, Japan
- Series of sporadic case reports
- International Takotsubo Registry established (Zurich) collecting data on patients from 1998 to 2014
- 1750 patients with Takotsubo syndrome

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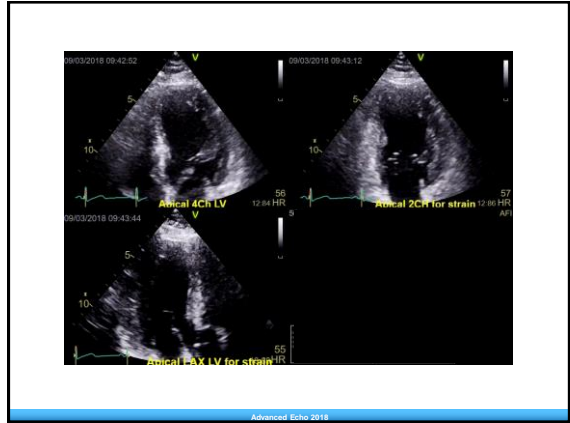
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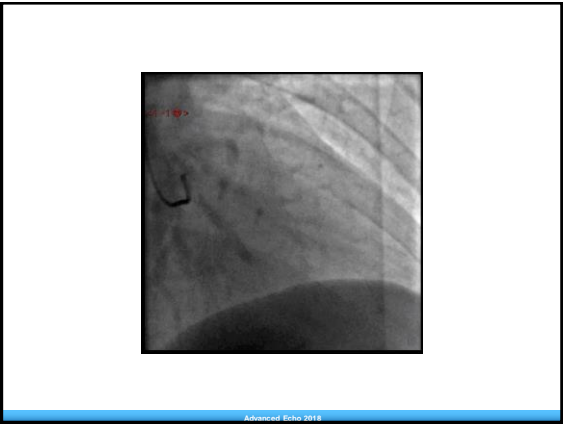
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Apical Type	Midventricular Type	Basal Type	Partial Type
Image A	Image B	Image C	Image D
Image E	Image F	Image G	Image H

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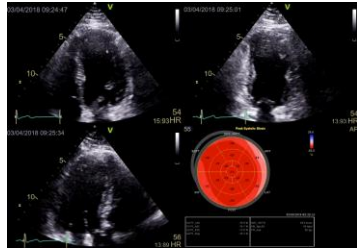
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### Reverse Takotsubo pattern

- Basal wall motion abnormality
- Rare
- Linked with subarachnoid haemorrhage, pheochromocytoma

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## Follow-up



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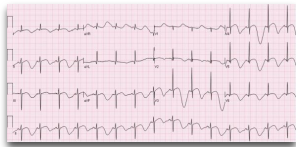
## Who gets Takotsubo syndrome?

- 90% female
- Average age 67 yrs (79% older than 50 yrs)
- 36% have a physical trigger (esp. men)
- 28% have an emotional trigger (esp. women)
- 29% have no obvious trigger
- Note 56% have a history of psychiatric or neurological disorder

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## How does it present?

- 76% chest pain
- 47% dyspnoea
- 8% syncope
- 87% will have raised troponin
- 83% will have raised BNP
- ST elevation in 44%, QT prolongation is common



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## What is the prognosis?

- 7% risk of MACE during first 30 days (esp. men)
- 6% risk of death per year, 10% risk of MACE
- ACE-I treatment associated with improved survival
- **No survival benefit from beta blocker therapy**

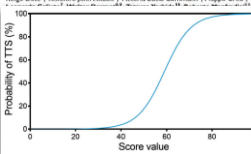
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ESC European Society of Cardiology 2018 & U.S. Consensus Document 2018

CONSENSUS PAPER

### International Expert Consensus Document on Takotsubo Syndrome (Part II): Diagnostic Workup, Outcome, and Management

Jelena-Renja Ghadri<sup>1</sup>, Ban Shor Wittestein<sup>2</sup>, Abhiram Prasad<sup>3</sup>, Scott Sharkey<sup>4</sup>, Keigo Doi<sup>5</sup>, Yoshitomo John Akashi<sup>6</sup>, Victoria Lucia Cammann<sup>7</sup>, Filippos Christakos<sup>8</sup>



### InterTAK score

Female sex	25 points
Emotional stress	24
Physical stress	13
No ST-segment depression	12
Psychiatric disorder	11
Neurologic disorder	9
QTc prolongation	6

**>70 points, 90% probability**  
**<30 points, <1% probability**

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## Right ventricular involvement

- 15% in the TIN registry, probably underestimated
- Affects haemodynamics & mortality in larger studies



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**IN THE JOURNAL GENERAL PRACTICE**

**CASE REPORTING ON MANAGEMENTS GENERAL MEDICAL**

**Case 8-2018: A 55-Year-Old Woman with Shock and Labile Blood Pressure**

**Abstract**

A 55-year-old woman was admitted to the hospital for acute onset of hypotension. She presented with a 10-minute episode of syncope, followed by a 15-minute episode of hypotension. She had a history of hypertension, diabetes, and hyperlipidemia. She was on treatment with lisinopril, metoprolol, and atorvastatin. She had a recent episode of acute coronary syndrome (ACS) treated with aspirin, clopidogrel, and intravenous (IV) nitroglycerin. She was also on treatment with furosemide and potassium supplements. She had a recent episode of acute kidney injury (AKI) treated with IV fluids. She had a recent episode of acute heart failure treated with IV furosemide and IV nitroglycerin. She had a recent episode of acute sinus tachycardia treated with IV beta-blockers. She had a recent episode of acute sinus bradycardia treated with IV atropine. She had a recent episode of acute sinus arrhythmia treated with IV atropine. She had a recent episode of acute sinus tachycardia treated with IV beta-blockers. She had a recent episode of acute sinus bradycardia treated with IV atropine. She had a recent episode of acute sinus arrhythmia treated with IV atropine.


**Keywords:** Shock, Labile blood pressure, Acute heart failure, Sinus tachycardia, Sinus bradycardia, Sinus arrhythmia, Acute coronary syndrome, Acute kidney injury, Acute sinus tachycardia, Acute sinus bradycardia, Acute sinus arrhythmia.

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- 55 yrs, female
- Dyspnoea, palpitations, then sudden onset chest pain
- Acute heart failure
- Sinus tachycardia
- High troponin & BNP

## Progress

- Normal coronary arteries
- Echo and MRI showed preservation of basal contractility but apical ballooning and RV involvement
- LVAD support
- Labile blood pressure
- Hi **Catecholamine induced cardiomyopathy - phaeochromocytoma**



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**CARDIOVASCULAR FLASHLIGHT**

**Haemodynamic deterioration due to intra-aortic balloon counterpulsation in takotsubo cardiomyopathy**

**Abstract**

A 65-year-old woman was admitted to the hospital for acute onset of hypotension. She presented with a 10-minute episode of syncope, followed by a 15-minute episode of hypotension. She had a history of hypertension, diabetes, and hyperlipidemia. She was on treatment with lisinopril, metoprolol, and atorvastatin. She had a recent episode of acute coronary syndrome (ACS) treated with aspirin, clopidogrel, and intravenous (IV) nitroglycerin. She was also on treatment with furosemide and potassium supplements. She had a recent episode of acute kidney injury (AKI) treated with IV fluids. She had a recent episode of acute heart failure treated with IV furosemide and IV nitroglycerin. She had a recent episode of acute sinus tachycardia treated with IV beta-blockers. She had a recent episode of acute sinus bradycardia treated with IV atropine. She had a recent episode of acute sinus arrhythmia treated with IV atropine.

**Keywords:** Takotsubo cardiomyopathy, Intra-aortic balloon counterpulsation, Haemodynamic deterioration, Acute heart failure, Acute sinus tachycardia, Acute sinus bradycardia, Acute sinus arrhythmia.

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## Summary

- Consider Takotsubo esp. in older female patients
- Physical / emotional precipitant is common
- Coronary angiography / CTCA should be performed
- Echo is diagnostic
- Co-existent coronary disease may be present
- ACE-I appear helpful, beta blockers less convincing
- Longterm follow-up appropriate

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**JIMMY RUFFIN**

**What Becomes Of The Broken-hearted**

**Baby, I've Got It**



Advanced Echo 2018