# A cardiomyopathy not to be missed

CLINICAL CARDIOLOGY

An older woman presents with myriad symptoms.


**THE AUTHOR**

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### History

GRACE is a 74-year-old woman with a strong family history of ischaemic heart disease and high cholesterol, and presents to the emergency department with myriad symptoms. The symptoms began with epigastric pain seven hours prior to her presentation.

She also had seven episodes of sudden, profound facial droop and dysarthria (each lasting about 10 seconds) five hours after the onset of pain, which was witnessed by her family and also by the ED staff.

Grace has a history of intermittent abdominal pain for a few months, but this pain at presentation is the worst in intensity. There is no history of weakness in any other part of her body. The episode is associated with nausea, clamminess and dry retching. Her previous medical history includes high cholesterol and hypothyroidism. She is a non-smoker and lives with her husband.

Her usual medications are thyroxine, atorvastatin, calcium and vitamin D.

### Examination

Grace is afebrile, with a blood pressure of 118/63mmHg, heart rate of 57bpm and respiratory rate of 18. Oxygen saturation is 96% on room air. Cardiovascular examination is unremarkable. She has epigastric tenderness on palpation and there is no rebound tenderness. There is no focal neurological deficit, with no evidence of facial droop or dysarthria.

### Investigations

Grace's ECG shows T-wave inversion in leads V3 to V6, II, III and aVF. Haemoglobin is 121g/L, with a platelet count of 238×10⁹/L. Troponin is elevated at 2.38ng/L. Renal function is within normal limits.

A CT scan of her head raises a concern of bleeding in the ventricle, so an MRI of the brain is performed, which is within normal limits. The arch aortogram and intracranial CT angiography does not show any major stenosis.

Once acute intracranial pathology is excluded, Grace is given aspirin, ticagrelor and heparin.

Her echocardiogram shows moderate left ventricular dysfunction with extensive regional wall motion abnormalities, the apex is dyskinetic, mid-distal anterior and anterolateral walls akinetic, mid-distal inferior and inferolateral walls are akinetic.

A coronary angiogram is performed, which shows normal coronary arteries. A left ventriculogram is not done due to the risk of possible left ventricular thrombus dislodgement. Carotid doppler shows plaque, with stenosis of 16-49% bilaterally. Thrombophilia and screening for vasculitis are negative.

She also had a neurology review during inpatient stay.

### Provisional diagnosis

Grace has a provisional diagnosis of Takotsubo cardiomyopathy (also known as stress-induced cardiomyopathy, apical ballooning syndrome and broken heart syndrome) and cardioembolic phenomenon causing a transient ischaemic attack.

### Management

She is treated with aspirin for the acute coronary syndrome. She is also started on warfarin (with enoxaparin sodium cover until INR therapeutic) for the treatment of cardiac thrombus, which is continued for three months.

For treatment of the left ventricular dysfunction, she is commenced on ramipril, bisoprolol and spironolactone

She has a repeat echocardiogram three months later, which shows the ventricular function is back to normal and the regional wall motion abnormalities have disappeared. The diagnosis is confirmed.

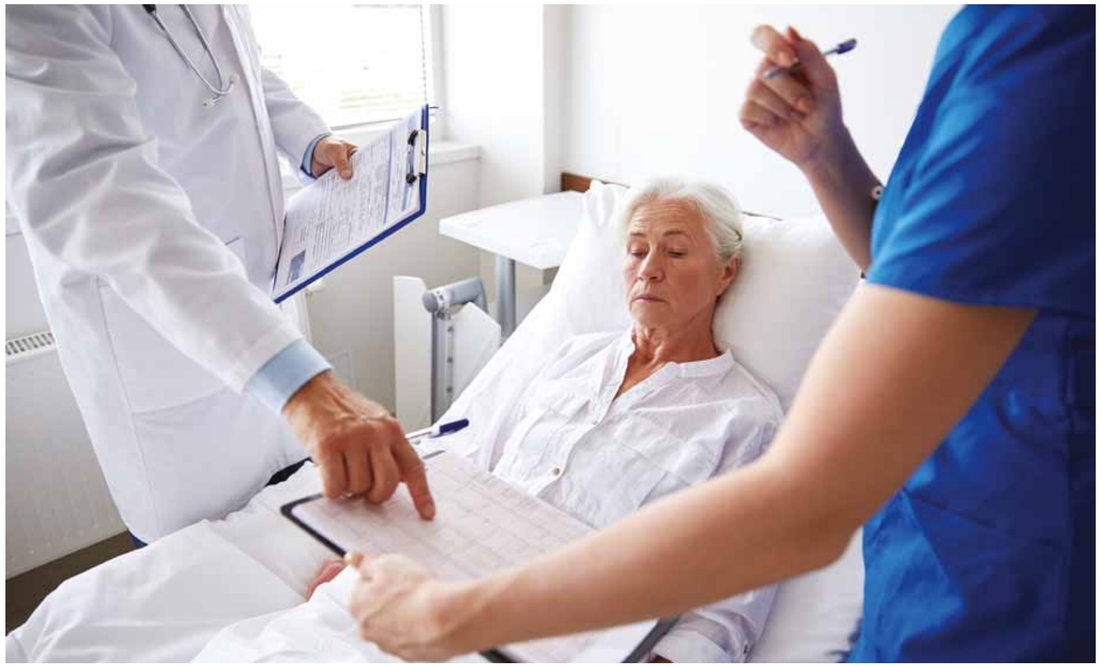
### Discussion

Takotsubo cardiomyopathy is characterised by transient regional left ventricular dysfunction, mimicking MI but in the absence of significant coronary artery disease.[1]

This was first described in Japan in 1990. Postulated pathogenic mechanisms include catecholamine excess, microvascular dysfunction and multivessel coronary artery spasm. The diagnosis should be suspected in an adult who presents with suspected acute coronary syndrome. Physical or emotional triggers are often, but not always, present.

Diagnostic criteria include the presence of transient regional wall motion abnormalities (typically not in a single coronary artery distribution), absence of angiographic evidence of coronary disease or plaque rupture, and presence of new ECG changes or modest troponin elevation.

Wall motion abnormality is typically detected by echocardiography or left ventriculography. Patterns of left ventricular abnormality include apical hypokinesis.



Atypical variants include mid-ventricular, basal, focal and global type.[2] The differential diagnosis includes acute coronary syndrome and myocarditis. Patients have the potential to develop acute shock, decompensated heart failure and intraventricular thrombus. There is a 2% annual risk of recurrence.

### Outcome

Grace responds to supportive therapy as well as standard heart failure treatment. She is to be anticoagulated for thrombus management, and also because she has significant left ventricular dysfunction plus akinesis with further risk of thrombus.

### References


1. *Circulation* 2008; 118:397-409.
2. *NEJM* 2015; 373:929-38.



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## Infectious diseases

Dr Sarah McGuinness and Dr Anna Ralph

# Non-healing skin lesions

A 38-YEAR-old Caucasian male living in NT presents with a three-month history of non-healing skin lesions on his arm.

The initial lesion appeared as a pustule in the cubital fossa. This was followed several weeks later by new lesions arising more proximally along the path of regional lymphatics.

He has no significant past medical history, is not on any regular medications, and has not travelled overseas. His hobbies include gardening, for which he does not usually wear gloves or a long-sleeved shirt.


**Dr McGuinness is an advanced trainee in infectious diseases, Royal Darwin Hospital, NT.**

**Dr Ralph is a physician in infectious diseases at Royal Darwin Hospital, senior clinical researcher at Menzies School of Health Research, and clinical director of RHD Australia, NT.**


## THE QUIZ

**Q. What is this dermatological pattern?**
a) Erythema migrans
b) Sporotrichoid spread
c) Ascending lymphangitis
A. The answer is b. These lesions are characteristic of "sporotrichoid" spread (nodular lymphangitis) in which erythematous papules, nodules and/or ulcers are located along the path of lymphatic drainage.

**Q. Which of the following organisms could cause this?**
a) Nocardia spp. (nocardiosis)
b) *Mycobacterium marinum* (fish tank granuloma)
c) *Leishmania* species (leishmaniasis)
d) *Sporothrix schenckii* (sporotrichoisis)
e) Methicillin-resistant *Staphylococcus aureus* (MRSA)
f) *Burkholderia pseudomallei* (melioidosis)
A. All of the above. Community-acquired MRSA and melioidosis are relatively common causes of non-healing skin lesions in tropical Australia, although they do not typically cause sporotrichoid spread. The diagnosis was confirmed to be sporotrichoisis.

**Q. How would you make the diagnosis?**
a) Skin swab
b) Serology
c) Blood culture
d) Punch biopsy for histopathology and culture
A. The answer is d. Definitive diagnosis is based on isolation of *S. schenckii* from fungal culture. The culture of tissue from punch biopsy specimens is preferred.

**Q. How is sporotrichosis acquired?**
a) Skin inoculation from contaminated organic matter such as hay
b) Fish, shellfish or water exposure
c) Contact sports
A. The answer is a, *S. schenckii*, which is a fungus found in organic matter, especially hay.

**Q. What is the treatment?**
a) Resolves spontaneously
b) Itraconazole
c) Amphotericin
A. The answer is b. Itraconzaole should be continued for 2-4 weeks after lesion resolution. Most patients require 3-6 months of treatment, otherwise relapses can occur.

## Squeezy

App of the Week

THIS app has been designed to help female patients with bladder and bowel problems strengthen their pelvic floor muscles.

Developed by physiotherapists on behalf of the UK National Health Service, the app teaches women how to squeeze their anterior and posterior pelvic floor muscles. It leads users through different types of exercises, for example, exercises that involve squeezing and lifting the pelvic floor muscles, and holding.

Simple animations guide patients through each squeezing exercise. Once patients have got the hang of the movements, they can follow the app's default exercise plan or create their own customised plan.

Reminders can also be set up, and the tracking section keeps record of the number of movements completed.

**Alice Klein**

### Specifications

COST: $6-6.50.
COMPATIBLE WITH: Apple and Android products.
REQUIRES: iOS 8.2 or later, Android 4.0 and up.

BUSTING THE MYTH

## Myth: Facelifts help to boost self-esteem.

FACELIFTS have become popular in recent years as advances in surgical techniques result in less alien-looking outcomes.

While it is generally assumed that taking a few years off your appearance improves your self-confidence, a US study casts doubt on this assumption.

The study involved 50 patients at a private practice who were asked to rate their self-esteem before and after having a facelift.

All but two of the patients were women with an average age of 58.

Six months after the procedure, the patients reported looking nine years younger on average.

However, self-esteem only rose by an average of 0.3 out of 30 on the Rosenberg Self-Esteem Scale, which was deemed to be a non-significant increase.

"Self-esteem measurements did not correlate directly with the positive effect of the surgical outcome, as patients showed no mean change in self-esteem," explained the study authors, who were led by US plastic surgeon Dr Andrew Jacono from the New York Centre for Facial Plastic and Laser Surgery.

"These findings underscore the complex nature of the human psyche as it relates to aesthetic surgery," they wrote in *JAMA Facial Plastic Surgery*.

"Understanding the association of the changed perception of age ... is invariably a complex and multifactorial issue," they added.

**Alice Klein**

*JAMA Facial Plastic Surgery* 2015; online.

**FACT:**
**People believe they look younger following a facelift but do not have improved self-esteem.**