Takotsubo Cardiomyopathy
in Agriculture

Case Study

65 yr male farmer

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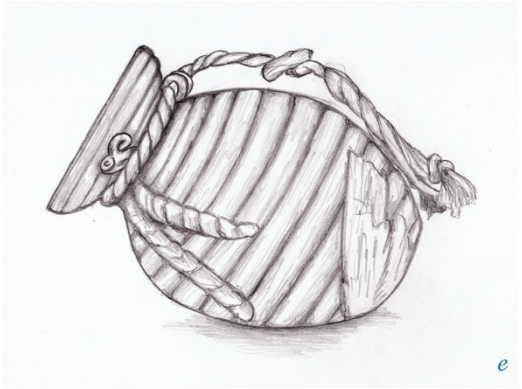
Chair, Proactive Agricultural Safety & Support

Takotsubo Cardiomyopathy

(TTC or TCM or TC)

Stress Cardiomyopathy', 'Broken Heart Syndrome', "Apical Ballooning Syndrome' (ABS)

Japanese for Octopus Trap



Description:

- Uncommon,
- Potentially serious condition (4),
- Nonischemic cardiomyopathy accompanied by transient ballooning and akinesis of left ventricle (17)

85%+ : post menopausal women

Re-occurrence: rare

Definition

expert panel (Marron et al 2006):

"Acute but rapidly reversible left ventricular systolic dysfunction in the absence of atherosclerotic coronary artery disease, triggered by profound psychological distress".

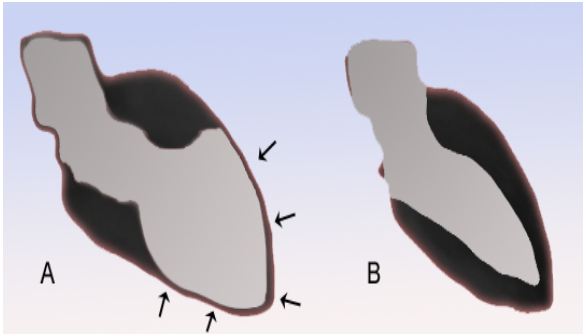
Characterized by:

- Transient Left Ventricular dysfunction
- Electrocardiographic changes
- Minimal releases of myocardial enzymes
- Modest elevation of cardiac troponin
- Absence of coronary artery disease

Symptoms

Acute chest pain - most common
Mimics myocardial infarction (14)
may also present with:

- dyspnoea,
- palpitations,
- syncope,
- cardiac arrest or changes on ECG



Although a chest X-ray may be normal, patients can present with acute pulmonary oedema and cardiomegaly

Onset Trigger

Usually an intensely physical or emotional stress
Approx. 20–35% trigger not obvious

Common Triggers:

- Unexpected death of loved ones
- Natural disasters
- Legal / financial losses
- Devastating medical diagnosis
- MVA

Prognosis: most = full recovery.
8% - 14% fatal at onset

Farmer Case Study

Middle of Harvest
Day 1: Fire upwind, on neighbour
Post: Drove 2 hrs, midnight
Day 2: Climbed Mt Amos
Day 3: walked Wineglass Bay
Day 4: Fire reignited mid pm,
racing towards own farm
Directing traffic, stock =
Mobile + two 2-way radios
10 pm: “elephant on chest”
Admitted: Fri night, gone Sat pm
Day 5: awoke “child on chest”
7 am called ambulance

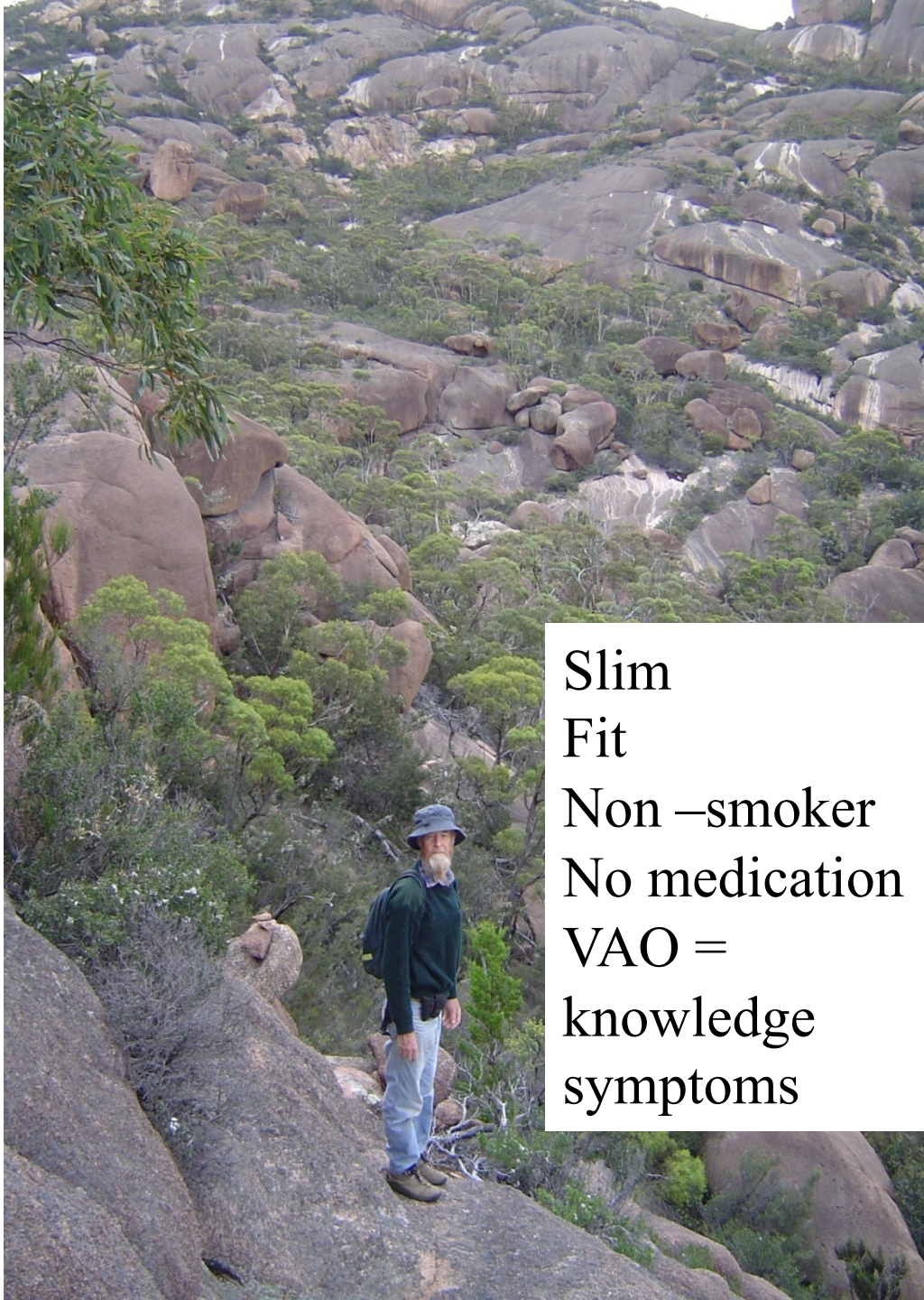
P.A.S.S.

ECG: 3 & 12 pads
Not normal, unrevealing

Transported to ED

Blood Test: positive
Chest Xray: nad
Angiogram: nad
Echocardiogram: +ve
BP monitored

Δ: *"Mid Ventricular Ballooning syndrome"*



Slim
Fit
Non –smoker
No medication
VAO = knowledge symptoms

Discharge

- 2.5mg Ramapril
- Aspirin 100mg (2 weeks)
- No driving: on roads interpreted OK on farm
- GTN spray: (never used)
- GP – never heard of diagnosis
- 4 week Echocardiogram: nad
- 12 week follow-up specialist

  - cease Ramapril but BP 176/80 = ??

Rehabilitation
"pushing the boundaries"

Managing the harvest !!!

= denial, not report unwell/pain

Day 7: 6.5 hr drive passenger +

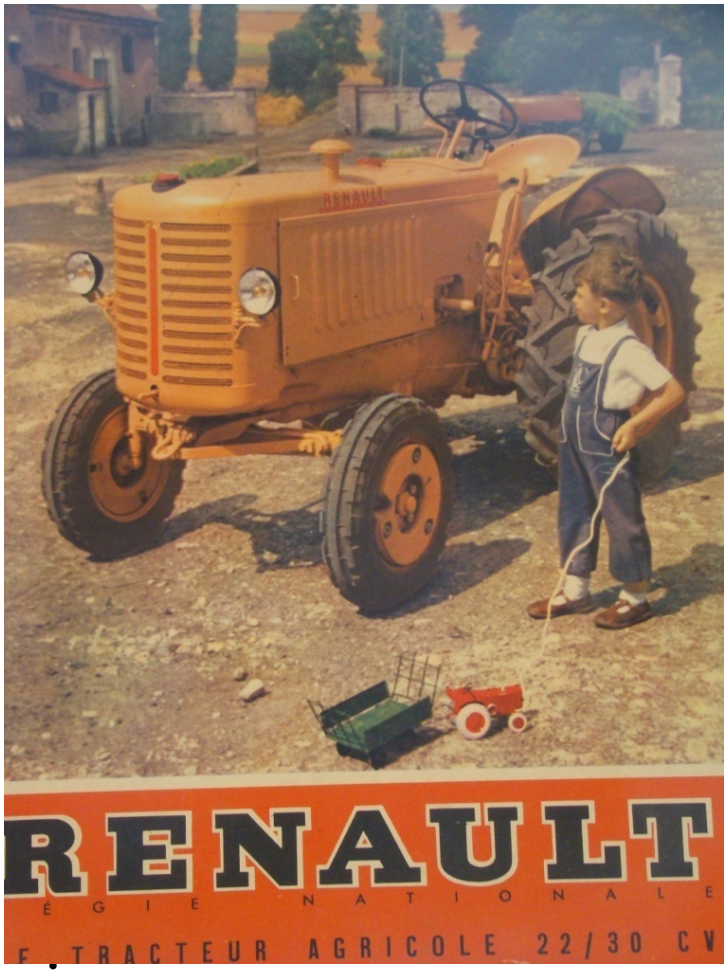
Day 8: 5 hr drive = tired / sore

Began to "settle" / read body?

Week 8: resting, felt unwell, slept

Next day: stubble burning

Week 15: resting, unwell, slept 30 min



Fitness

Benchmark:18 min fast walk

Week 7: slow, frequent rests
Week 11: slow, no rests
Week 20: steady pace
Week 29: fast walk, = 18 min

Self Monitoring: BP m,n,e,n.
Week 20- 21: no med Average = 144/71
Week 21- 22: 2.5 mg Ramapril
Average = 141/68
Week 22 -?: 5 mg Ramapril

with overall average 142/70,
Range: 168/84 to 108/52

Recommendations

Written instructions on discharge to:

Spouse and patient – 2 copies

- **“No Go” areas**: = driving & why
- Rehabilitation fitness guidelines

Farmers make own decisions / challenge / need data

Educate – GPs, nurses, community

- Chest pain needs immediate attention
- Transport to centre with Echocardiogram

Resources

- (16) Rahman A, Lui D. (2012) *"Broken Heart Syndrome" – a case study*. Australian Family PhysicianVol41, No. 1/2 http//www.racgp.org.au/afp/201201/201201Rahman.pdf
- L. Hamity *et al*. *Stress cardiomyopathy: clinical features and outcomes*: Health2 (2010) Vol.2, No.4, 300-305 (2010)
- (17) Google: : http://www.takotsubo.com/ (2010)
- (14) Looi, Jen-Li et al, Auckland, NZ: "*Clinical Characteristics and Outcome of Apical Ballooning Syndrome in Auckland, New Zealand."*

Heart, Lung & Circulation; Mar2012, Vol. 21 Issue 3, p143-149.

- Reference list handout