Takotsubo Cardiomyopathy in Agriculture

Case Study
65 yr male farmer

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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
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”
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


• Reference list handout