



MAGISTRATES COURT of TASMANIA

CORONIAL DIVISION



Record of Investigation into Death (Without Inquest)

*Coroners Act 1995
Coroners Rules 2006
Rule 11*

I, Rod Chandler, Coroner, having investigated the death of Jane Oosterloo

Find, pursuant to Section 28 of the Coroners Act 1995, that:

- a) The identity of the deceased is Jane Oosterloo;
- b) Mrs Oosterloo was born in England on 21 August 1954 and was aged 63 years;
- c) Mrs Oosterloo died on 18 September 2017 at the Launceston General Hospital (LGH) in Launceston; and
- d) The cause of Mrs Oosterloo's death was haemopericardium (pericardial tamponade) caused by perforation of the right ventricle of the heart during an ultrasound guided transthoracic pericardiocentesis procedure. Significant contributing factors were influenza B myocarditis, pericarditis with pericardial effusion and viral pneumonia.

Background

Mrs Oosterloo was married to Rene Oosterloo. They had three children and resided at Riverside in Launceston. Mrs Oosterloo's past medical history included breast cancer with mastectomy, inflammatory arthritis, asthma and chronic obstructive pulmonary disease (COPD).

Circumstances Surrounding the Death

Mr Oosterloo advises that on Saturday 9 September 2017 his wife *"said she was not feeling well. She said she felt lethargic and heavy in the bones, and we chalked it up to the flu or flu symptoms."* When her symptoms did not improve she consulted general practitioner, Dr Paul Scott. This was on 13 September. Dr Scott noted: *"likely influenza infection, dehydration, irregular pulse, exacerbation of Chronic cough/?Asthma."* He referred Mrs Oosterloo to the LGH. She presented to its Emergency Department (ED) at 4.51pm. There she was noted to have a low blood pressure and some postural symptoms. She was treated with intravenous fluid and antiemetics for her nausea. Around 10.00pm she was discharged home. A discharge letter sent to Dr Scott stated her diagnosis to be *"influenza-like illness (ILI)."*

Mrs Oosterloo's symptoms continued to worsen and she returned to the ED the following day arriving at 5.26pm. It was recorded that Mrs Oosterloo looked unwell, was tachycardic, hypotensive and afreble. She reported having been unable to keep any fluids down. A chest x-ray showed chronic COPD changes. Blood tests indicated hyponatraemia (low sodium level). Her creatinine and urea levels had risen. These results, when combined with an elevated haemoglobin, suggested intravascular fluid depletion with water retention.

Mrs Oosterloo remained in hospital and was variously managed in the ED and the Emergency Medical Unit. There was difficulty obtaining blood pressure in the early hours of 15 September. Diagnostic concerns included a viral illness and Oseltamivir was commenced (this is an anti-viral agent advised for complicated cases of both influenza A and influenza B infections). At 4.00am a bedside ultrasound and echocardiogram were performed. They showed that the left ventricular function was decreased and a 1.4 cm pericardial effusion was present. An infectious diseases clinician was consulted and swabs were positive for influenza B.

At 10.40am on 15 September Mrs Oosterloo was reviewed by the cardiology team. An echocardiogram revealed a left ventricular ejection of 40% (ie. mild to moderate impairment of heart function) and a pericardial effusion of 1.4 to 1.7 cm in thickness. A diagnosis of viral myocarditis was then made. Dobutamine and colchicine were commenced to respectively treat the heart failure and pericarditis.

Over 16 and 17 September Mrs Oosterloo's cardiac function continued to decline. She developed acute renal failure requiring haemofiltration. Atrial fibrillation developed and was treated with amiodarone and cardioversion. Additional catecholamines were given for the worsening heart failure. By this time she had been transferred to the Intensive Care Unit (ICU).

In the late evening of 17 September a decision was taken by the ICU team to carry out a pericardiocentesis to drain the pericardial effusion in an attempt to improve cardiac function. At this point her heart output function had reduced to around 1.6 L/min. However, Mrs Oosterloo did not survive the procedure and died at 12.50am on 18 September 2017.

Post-Mortem Report

This was carried out by forensic pathologist Dr Donald Ritchey. His report includes this helpful description of events:

"Mrs Oosterloo presented to the LGH with a week's long viral upper respiratory infectious symptoms. Evaluation at the hospital revealed acute kidney injury and a progressive pericardial effusion causing cardiovascular compromise requiring a procedure (pericardiocentesis) to drain the fluid from the pericardial sac to restore normal cardiovascular function. The procedure was carried out under transthoracic ultrasound guidance however was complicated by perforation of the right ventricle resulting in rapid accumulation of blood in the pericardial sac (haemopericardium). The pressure of blood within the pericardial sac causes external pressure surrounding the heart resulting in acute heart failure and death."

In Dr Ritchey's opinion the cause of Mrs Oosterloo's death was haemopericardium (pericardial tamponade) caused by perforation of the right ventricle of the heart during an ultrasound guided transthoracic pericardiocentesis procedure. Significant contributing factors were influenza B myocarditis, pericarditis with pericardial effusion and viral pneumonia. I accept this opinion.

Investigation

This has been informed by:

- 1) Police Report of Death.
- 2) An affidavit provided by Mr Oosterloo.
- 3) Consideration of Mrs Oosterloo's records at West Tamar Health.
- 4) A precis of Mrs Oosterloo's records at the LGH completed by research nurse, Ms L K Newman.
- 5) An affidavit provided by Dr Ritchey.
- 6) A report provided by Dr A J Bell as medical adviser to the coroner.

In his report Dr Bell offers these opinions:

- That myocarditis and pericarditis have generally been considered rare complications of influenza. However, in one study of fatalities from influenza B infection, myocardial injury was identified at autopsy in 69% of the patients.
- In the circumstances the decision to perform the pericardiocentesis was correct and taken at the proper time. Without the procedure death due to heart failure was almost certain to occur in the short term.
- Perforation of the right ventricle is a recognised complication of pericardiocentesis and it frequently leads to death. The decision to perform the procedure should not be made lightly.
- Overall the treatment and care of Mrs Oosterloo in the LGH was of good quality.

Findings, Comments and Recommendations

This case illustrates the tragic consequences which can occasionally flow from a seemingly innocuous and usually survivable condition. Unfortunately for Mrs Oosterloo her viral infection was complicated by the development of myocarditis and pericarditis which eventually made necessary an emergency procedure to maintain life. Unfortunately that procedure could not be executed without complication and directly led to Mrs Oosterloo's death. I accept the opinion of Dr Bell and find that her death came about despite the appropriate and best efforts of the LGH and its staff.

I have decided not to hold a public inquest into this death because my investigation has sufficiently disclosed the identity of the deceased, the date, place, cause of death, relevant circumstances concerning how her death occurred and the particulars needed to register her death under the *Births, Deaths and Marriages Registration Act 1999*. I do not consider that the holding of a public inquest would elicit any significant information further to that disclosed by the investigation conducted by me. The circumstances of the death do not require me to make any further comment or to make any recommendations.

I convey my sincere condolences to Mrs Oosterloo's family and loved ones.

Dated: 31 August 2018 at Hobart in the State of Tasmania.

Rod Chandler
Coroner