# CORONERS COURT

# NEW SOUTH WALES

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| **Inquest:** | Inquest into the death of Jessica Martin |
| **Hearing dates:** | 7-9 September 2015 |
| **Date of findings:** | 2 December 2015 |
| **Place of findings:** | Coroner's Court, Glebe |
| **Findings of:** | Magistrate C. Forbes, Deputy State Coroner |
| **Catchwords:** | CORONIAL LAW-Cause and manner of death-undiagnosed Addison's disease-care and treatment |
| **File number:** | 2009/472182 |
| **Representation:** | Mr A. Casselden, Counsel Assisting with Ms A. McCarthy, Crown Solicitor's Office<br><br>Ms K. Bourke representing Associate Professor Monica Rossleigh<br><br>Mr S. Woods representing the NSW Ambulance Service and the South Eastern Sydney Local Health District |
| **Findings:** | I find that Jessica Martin died on 2 July 2009 at St Vincent's Hospital, Darlinghurst, NSW. I am satisfied the cause of her |

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| | death was peri-myocarditis in the presence of sub clinical Addison's disease. The manner of her death was natural causes. |

IN THE STATE CORONER'S COURT
GLEBE
SECTION 81 CORONERS ACT 2009

# REASONS FOR DECISION

## Introduction

1. This is an inquest into the sad death of Jessica Martin who died on 2 July 2009, aged 24. She died at St Vincent's Hospital following her urgent transfer by ambulance from her home in Waterloo. She had been discharged home two days earlier from the Emergency Department of the Prince of Wales Hospital. She is survived and missed by her parents, Marlene and Bill, her siblings and her partner, Dean Theobald, and his family. They feel that the health system let them down and wonder whether more could have been done by clinicians to prevent her death.

2. At the family's request I will refer to her by her first name, Jessica.

3. An inquest is intended to be an independent examination of the available evidence relating to the circumstances of a person's death. The *Coroners Act 2009* ("the *Act*") requires me to identify the person whose death is being investigated, the date and place of the death and the cause and circumstances of the death. A secondary but equally important function under the *Act* is created by section 82, which empowers a Coroner to make any recommendations that are considered necessary or desirable to make in relation to any matter connected with a death.

4. It should always be borne in mind that inquests are not criminal investigations, nor are they civil liability proceedings intended to determine fault or lay blame on persons involved in the incident. Rather, the focus is how and why a person died and whether there are things that can be done in the future to prevent a similar death.

## Jessica Martin

5. Jessica was born on 6 February 1985 and was 24 years old at the time of her death. She was part of an extremely close and loving family. She lived with her partner Dean in an apartment in Waterloo. She worked as a customer service officer with her mother, Marlene.

6. Between October 2008 and June 2009 she had lost a considerable amount of weight. The records indicate that her weight loss over this period was perhaps in the order of 15 to 17 kg. She was also extremely tired and unable to perform her usual sporting activities at the same level.

7. In March 2009 a thyroid function test was performed by her general practitioner, Dr Paul Raftos which revealed mild hypothyroidism with a suppressed TSH and mildly elevated T3 levels.

8. In May 2009 Dr Raftos referred her to Associate Professor Monica Rossleigh, nuclear medicine physician, for further investigation. Associate Professor Rossleigh, at the time of her consultation with Jessica, could not attribute her profound weight loss and marked proximal muscle weakness to thyroid dysfunction. Associate Professor Rossleigh thought it likely that Jessica had had a transient episode of Hashimoto's toxicoses in March 2009 but otherwise her thyroid function was normal without any thyroid therapy.

9. Associate Professor Rossleigh referred Jessica to Associate Professor Matthew Kiernan, consultant neurologist, regarding the possibility of underlying myopathy in relation to her muscle weakness. Associate Professor Kiernan thought it unlikely that Jessica was suffering from myopathy but was concerned with her significant weight loss.

10. On 29 June 2009 Jessica's commenced having chest pain. It was retrosternal in location and initially manifested only upon deep inspiration. Later that night her chest pain became constant and radiated to her left shoulder. Jessica took 400mg of neurofen at about 1am and this relieved her chest pain completely by 2am. However her chest pain reoccurred at 7am on the morning of 30 June 2009.

11. Jessica presented to the Emergency Department at Prince of Wales Hospital on Tuesday, 30June 2009 at 9.56 in the morning complaining of central chest pain. Possible diagnoses of pleurisy, pericarditis and pulmonary embolism were considered by the medical staff.

12. Her chest pain was not associated with any shortness of breath, palpitations, vomiting, diarrhoea or urinary symptoms. Examination of Jessica was unremarkable, other than a long-standing hypotension or low blood pressure. Jessica's chest was clear, heart sounds dual, abdomen soft and non-tender and chest wall non-tender. Serial ECGs were done which revealed the presence of normal sinus rhythm with no acute changes.

13. Her blood chemistry was normal. Chest x-ray was normal – heart size normal, lung fields clear, no evidence of pneumothorax. The provisional diagnosis on discharge was that Jessica had viral pleurisy. Jessica was discharged home at about 2pm.

14. On discharge Jessica was advised to take regular anti-inflammatories and follow up with her GP in 3 days' time. Medical staff thought it may be appropriate to do a repeat ECG and perhaps further investigations if Jessica's pain did not resolve or got worse.

15. Over the next 2 days Jessica's health deteriorated to the point that her partner Dean, her father Bill and Dean's mother Maree called triple O in the afternoon of Thursday, 2 July 2009. An ambulance was dispatched to Jessica and Dean's apartment and following an assessment by ambulance paramedic Ruth McCarter a decision was made to urgently transfer Jessica to Prince of Wales Hospital for treatment. Whilst Jessica was in the ambulance outside her apartment she went into cardiac arrest. Prior to her cardiac arrest urgent intensive care back up had already been requested. CPR was commenced and the NSW Ambulance Service Sydney Control was advised of Jessica's cardiac arrest via the radio by ambulance paramedic William Brand who requested further urgent back up.

16. Given the seriousness of Jessica's situation a decision was made to transport her to St Vincent's Hospital. Shortly after her arrival at St Vincent's Hospital resuscitation attempts were ceased and Jessica's family was informed that she had passed away.

## Independent expert review of Jessica's cause of death and care and treatment

17. Professor John Carter, Consultant Endocrinologist, reviewed all of the medical records relating to Jessica's care and treatment in this matter.

18. He gave uncontested evidence that the cause of her death was peri-myocarditis in the presence of sub clinical Addison's disease. Addison's disease, also known as primary adrenal insufficiency, is related to the lack of cortisol and aldosterone being produced by the adrenal cortex. He explained that the history of Jessica's unexplained weight loss, lethargy and chronic low blood pressure combined with the description of her adrenal glands at autopsy is clear evidence of the undiagnosed Addison's disease. He also stated there was also clear evidence of the peri-myocarditis.

19. He believed that the treatment of Jessica by Dr Raftos, Associate Professor Rossleigh and Associate Professor Kiernan was appropriate.

20. He also stated that while in retrospect there were some features consistent with Addison's disease in the Emergency Department at Prince of Wales Hospital on 30 June 2009, (ie low-normal blood pressure and significant weight loss), he explained that "with an acute presentation of Addison's disease, it is very common to find a low serum sodium and a high serum potassium along with other metabolic and ECG changes but none of these were present on 30 June 2009 in the Emergency Department." It was his opinion that it is understandable that the doctors at Prince of Wales Hospital did not undertake specific investigations with respect to Addison's disease and that their notification on the discharge letter relating to weight loss and low/normal blood pressure was appropriate.

21. He also stated that there is no doubt Jessica had pericarditis/myocarditis and that the plan of management taken by the doctors at the Emergency Department in relation to her heart were appropriate.

22. He said that this increased stress to her body, exacerbated the adrenal insufficiency and induced an Addisonian crisis which is associated with a marked drop in blood pressure and, in the presence of underlying heart disease (myocarditis), cardiac arrest could follow.

23. Professor Carter was not critical of Jessica's medical care and treatment in the Emergency Department at Prince of Wales Hospital. He said that Addison's disease is rare and the classical presentation includes increasing skin pigmentation along with low serum sodium and high serum potassium levels. He said that neither of these features were documented to be present with Jessica.

24. His opinion was that the statements given to the Emergency Department doctors at the Prince of Wales Hospital that Jessica's blood pressure had been low for a long time, (not associated with symptoms such as dizziness) and the weight loss was being investigated by other doctors understandably led to the conclusion that these two findings did not need to be investigated in the acute situation as at 30 June 2009. He explained that by far the majority of people who have weight loss and a low-normal blood pressure (without symptoms of dizziness) will not have Addison's disease.

## What can be done to prevent a similar death in the future?

25. Addison's disease can be diagnosed by a relatively straight forward measuring of serum cortisol levels. Professor Carter's view is that the hardest part in making the diagnosis is to actually think about the possibility of the condition. He said that most people with Addison's disease in the acute situation will present to an Emergency Department and that is where practitioners need to be reminded to think about the possibility of the condition.

26. A recent inquest into the death of Dr Peter Domachuk also involved undiagnosed Addison's disease. In that matter the Clinical Excellence Commission gave a statement that the most appropriate vehicle for a safety alert for Addison's disease in the NSW public health system would be a Patient Safety Watch that features the challenges in diagnosing and managing Addison's disease. I have been informed that the Clinical Excellence

Commission is developing the publication in consultation with the Emergency Care Institute and Endocrinology committees of the Agency for Clinical Innovation. Accordingly, I will also make a recommendation in this case that the Ministry of Health consider publishing that Patient Safety Watch.

## FINDINGS UNDER S. 81 CORONERS ACT 2009

I find that Jessica Martin died on 2 July 2009 at St Vincent's Hospital, Darlinghurst, NSW. I am satisfied the cause of her death was peri-myocarditis in the presence of sub clinical Addison's disease. The manner of her death was natural causes.

## RECOMMENDATIONS UNDER S. 82 CORONERS ACT 2009

***To the NSW Minister for Health***

1. I recommend that the NSW Ministry of Health consider publishing a Patient Safety Watch to Local Health Districts with the aim of increasing awareness of the potentially catastrophic outcome of undiagnosed adrenal insufficiency/Addison's disease.

Magistrate C. Forbes
Deputy State Coroner
2 December 2015