

**FINDING INTO DEATH WITHOUT INQUEST**

*Form 38 Rule 60(2)*  
*Section 67 of the Coroners Act 2008*

I, AUDREY JAMIESON, Coroner having investigated the death of SELVAMALAR MURUGATHASAN

without holding an inquest:

find that the identity of the deceased was SELVAMALAR MURUGATHASAN

born on 12 October 1965

and the death occurred on 13 March 2009

at Monash Medical Centre, 246 Clayton Road, Clayton, Victoria 3168

from:

1a. ACUTE THROMBOSIS OF A PROSTHETIC MITRAL VALVE

Pursuant to Section 67(2) of the **Coroners Act 2008**, I make findings with respect to **the following circumstances:**

1. Mrs Selvamalar Murugathasan was 43 years of age at the time of her death. She lived at 2/129 Stud Road, Dandenong with her husband Kathirgamanathan Murugathasan. Mrs Murugathasan was born in Sri Lanka and spoke Tamil.
2. In 1998, Mrs Murugathasan underwent replacement/insertion of prosthetic mechanical mitral and aortic heart valves due to damage caused by rheumatic heart disease. Mrs Murugathasan had been taking warfarin anticoagulant therapy since that time.
3. In 2007, at the age of 41 years of age, Mrs Murugathasan attended Monash Private Hospital Reproductive Biology Clinic (IVF), for an assessment of fertility and the planning for pregnancy. In preparation for fertility treatments Monash Private Hospital IVF clinic made a referral to Cardiology Services at Monash Hospital, both for a cardiac review and advice regarding anticoagulation therapy. In November 2007, an echocardiogram indicated that Mrs Murugathasan's heart function was normal and instructions were provided for the standard perioperative antithrombotic management. This involved Mrs Murugathasan ceasing her warfarin 3-4 days prior to the IVF procedure and self administering an injection of subcutaneous Clexane twice a day. Her warfarin was to be restarted the following day. In the same month, the Monash Hospital Cardiology Service made reference in the

medical notes to language barriers they were experiencing with Mrs Murugathan. The medical record includes a letter telling of the cardiology review which was sent to Mrs Murugathan's general practitioner Dr Thurairajah, who also speaks Tamil.

4. In April 2008, planned laparoscopic surgery at Monash Private Hospital IVF Clinic was cancelled as Mrs Murugathan did not correctly cease her warfarin 3-4 days prior to the IVF procedure and commence the preoperative subcutaneous Clexane injections as she had been instructed. A medical consultation at Monash IVF documents the use of a Tamil speaking interpreter to relate this issue to Mrs Murugathan.

5. In September 2008, Mrs Murugathan underwent a further clinical review by Monash Hospital Cardiology Service, resulting in the implementation of a plan for an annual cardiac review to occur. Following the cardiac review in October 2008 the previously cancelled laparoscopic surgery proceeded. Mrs Murugathan had implemented the correct plan for her perioperative anticoagulant management.

6. In December 2008, planning commenced for anticoagulation therapy for IVF egg pickup and subsequent embryo transfer. Monash Private IVF conducted a telephone consultation with on-call Monash Hospital haematologist to determine the plan for anticoagulation therapy.

7. In February 2009, the IVF stimulation cycle, egg pickup and subsequent embryo transfer occurred, however a pregnancy test on 6 March 2009 was negative. Mrs Murugathan recommenced her warfarin (dose undetermined) on 11 March 2009.

8. On 12 March 2009, Mrs Murugathan was at home with her husband having completed dinner. At approximately 8.15pm, Mrs Murugathan reported a sudden onset of chest pain, shortness of breath and vomiting. Mrs Murugathan was taken to Dandenong Hospital, where she was reported to have fulminant pulmonary oedema.

9. At approximately 2.00am on 13 March 2009, Mrs Murugathan was transferred to the Monash Medical Centre and admitted to the Intensive Care Unit (ICU). A transthoracic echocardiogram demonstrated an acute mitral valve thrombosis. A short time later, she suffered a cardiac arrest and could not be revived. Mrs Murugathan was declared deceased at 3.57am.

## **Investigation**

10. Dr Melissa Baker, Forensic Pathologist with the Victorian Institute of Forensic Medicine, performed an autopsy. Dr Baker attributed Mrs Murugathan's death to acute thrombosis of a prosthetic mitral valve. She also identified significant natural disease affecting the cardiovascular system with severe coronary artery atherosclerosis.



11. As Mrs Murugathan's cause of death occurred in the setting of the cessation and recommencement of her anticoagulation therapy, warfarin, the Health and Medical Investigation Team (HMIT)<sup>1</sup>, was requested to review the medical management of Mrs Murugathan on behalf of the coroner. A review of the medical records could not determine the dose of warfarin, so the investigation was extended to obtain statements from Dr Anita Thurairajah, General Practitioner, and the treating IVF specialist, Dr Gareth Weston.

### **Comments:**

Pursuant to section 67(3) of the Coroners Act 2008, I make the following comments connected with the death:

1. A review of the material by HMIT identified a breakdown in communication between Dr Weston, the treating IVF specialist and the General Practitioner, Dr Thurairajah. Mrs Murugathan attended on her IVF specialist, Dr Weston, on 12 March 2009, the focus of this consultation appeared to be on future options for children. Dr Weston, according to his statement, was under the impression that the warfarin dosing was recommenced by the general practitioner however, Dr Thurairajah was under the impression that Dr Weston was managing the anticoagulation therapy. Consequently, each clinician believed the other to be managing the anticoagulation therapy and the assumption has also been made that Mrs Murugathan sufficiently understood the plan for anticoagulation therapy given her recent experience in changing anticoagulation therapy due to the laparoscopic procedure.

2. As thromboembolic and anticoagulation - related problems are by far the most frequent complications in mechanical heart valve, Mrs Murugathan was appropriately prescribed warfarin in order to prevent prosthetic heart valve thrombosis and a thromboembolic event.

3. Mr Murugathan specifically requested that the Court not investigate his wife's death any further. However, Mrs Murugathan's death highlights the importance of clear communication between health professionals and patients whom are consumers of a plan, particularly for ongoing management and monitoring of an anticoagulation therapy.

### **Recommendations:**

Pursuant to section 72(2) of the Coroners Act 2008, I make the following recommendations connected with the death:

1. Monash Private Reproductive Biology Clinic (IVF), develop and implement a written policy for anticoagulation therapy, in an effort to reduce the likelihood of medical complications. This policy should provide written guidance in lay language specifically addressing:

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<sup>1</sup> The role of the Health and Medical Investigation Team (HMIT) is to assist the Coroner's investigation into the nature and extent of deaths, which occurred during the provision of healthcare and identify potential system factors in healthcare related deaths. HMIT personnel comprise of practising Physicians and Clinical Research Nurses who draw on their medical, nursing and research experiences, skills and knowledge, to independently evaluate clinical evidence for the investigation of reportable healthcare deaths and to assist in identifying remediable factors that may assist in prevention and risk management in health services settings.

- a. The mechanisms for the provision healthcare information to the patient and all care providers;
- b. The type of medicine, dose and timing of administration;and
- c. Assignment of responsibility for monitoring both the anticoagulation levels and adherence by the patient to the correct medication regime.

## Finding

I accept and adopt the medical cause of death as identified by Dr Melissa Baker, and find that Selvamalar Murugathasan died from acute thrombosis of a prosthetic mitral valve, in the setting of cessation and recommencement of her anticoagulation therapy, warfarin, for the purposes of IVF treatment.

I direct that a copy of this finding be provided to the following:

Mr Kathirgamanathan Murugathasan;  
Dr Anita Thurairajah;  
Dr Gareth Weston, Gynaecologist and Infertility Specialist;  
Monash Reproductive Biology Clinic (IVF);  
Mr John Snowden, Corporate Counsel, Southern Heath;  
RANZCOG (IVF Sub speciality);  
Health & Medical Investigation Team of CPU.

Signature:



AUDREY JAMIESON  
CORONER

19 April 2012