IN THE CORONERS COURT

OF VICTORIA

AT MELBOURNE

Court Reference: COR 2016 0975

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 MAGDALENA DORTER without holding an inquest:
find that the identity of the deceased was MAGDALENA DORTER
born 4 February 1958
and the death occurred on 2 March 2016
at Austin Health, 147 Studley Road Heidelberg Victoria 3084
from:

1 (a) HAEMORRHAGIC SHOCK COMPLICATING PULMONARY THROMBOEMBOLISM (TREATED)

1 (b) DEEP VEIN THROMBOSIS FOLLOWING A FOOT FRACTURE SUSTAINED IN A FALL

Pursuant to section 67(1) of the **Coroners Act 2008**, I make findings with respect to **the following circumstances**:

1. Magdalena Dorter was 58 years of age at the time of her death. Mrs Dorter lived with her husband Hakan Dorter in Vermont, and was a housekeeping supervisor. Her medical history included breast cancer in 2008, thyroid surgery for an enlarged thyroid gland, and a craniotomy and splenectomy following a motor vehicle crash.

2. On Monday 8 February 2016, Mrs Dorter was working at the Grand Hyatt Melbourne, when she tripped and injured her foot. Mrs Dorter presented to her general practitioner (GP) Dr Garry Berryman, at Primary Medical and Dental Care Forest Hill, with foot pain. Dr Berryman performed an x-ray that demonstrated an undisplaced fracture of the fifth metatarsal bone in her foot. He applied a below knee plaster cast.

3. On 9 February 2016 Dr Berryman reviewed the plaster and identified no concerns. He encouraged Mrs Dorter to wiggle her toes for clot prevention.

4. On 17 February 2016 Mrs Dorter saw Dr Premysl Kunz, another GP at the same practice, for a planned review. Dr Kunz ordered a repeat x-ray of the foot to check the position of the fracture. At this review the plaster was noted to be tight at the top and the bottom. In a statement provided to the Court dated 23 November 2016, Dr Kunz indicated that he does not recall if Mrs Dorter complained of tightness or if he just noticed the tightness. Dr Kunz recorded that a 'V' shaped release was ordered; a clinic nurse was to perform this procedure to release the tight areas of the plaster. Dr Kunz stated that he telephoned an orthopaedic surgeon during this consultation. An appointment for the following week was made for Mrs Dorter, to assess if the plaster could possibly be changed to a CAM boot, on which she could weight bear.

5. Dr Kunz also consulted with Mrs Dorter's haematologist Dr Kam Narayan. Dr Kunz raised concern that the hormone medication, letrozole - that Mrs Dorter had been taking for her breast cancer treatment, might increase the risk of clotting. Dr Kunz stated that he asked Dr Narayan whether he should prescribe Clexane (enoxaparin), a drug to decrease clotting. The haematologist reassured the Dr Kunz that the medication had been ceased a few months prior and there was no added risk of deep vein thrombosis (DVT).

6. On 19 February 2016, Mr Dorter removed the plaster cast from Mrs Dorter's leg, due to pain and swelling. According to medical notes from Maroondah Hospital, on the morning of 23 February 2016, Mrs Dorter had seemed well but suddenly became short of breath, sweaty and agitated. She presented to Maroondah Hospital; on arrival, she had very low blood pressure and oxygen saturations. She was diagnosed with multiple pulmonary emboli (PE) with the largest clot being within the main pulmonary trunk (saddle embolus).[1] An ultrasound showed extensive DVT within all vessels of Mrs Dorter's legs. The PEs were treated with clot

[1] Blood clot that has travelled to the lungs and become wedged at the junction of the major blood vessels to the lungs preventing blood flow to the lungs.

dissolving medication. However, due to the extensive nature of the emboli within Mrs Dorter's lungs and continuing cardiovascular instability caused by the saddle embolus, she was transferred to the Austin Hospital.

7. On 24 February 2016 clot retrieval was performed, and extra corporeal membrane oxygenation (ECMO) was commenced. Mrs Dorter developed extensive bleeding complications from her treatment. She bled into her abdomen and had two exploratory laparotomies but no remediable source of bleeding was found. On 2 March 2016 it was felt that all avenues of treatment had been exhausted. Palliative management was commenced and Mrs Dorter was declared deceased at 5.00pm that day.

Forensic pathology investigation

8. Dr Victoria Francis, Forensic Pathologist at the Victorian Institute of Forensic Medicine performed a full post mortem examination upon the body of Mrs Dorter, reviewed a post mortem computed tomography (CT) scan, medical records from Medical and Dental Forest Hill and an e-Medical Deposition Form from the Austin Hospital, and referred to the Victoria Police Report of Death, Form 83. Mrs Dorter had a body mass index (BMI) of 38.[2]

9. At autopsy, Dr Francis observed pulmonary thromboemboli within Mrs Dorter's pulmonary arteries. Smaller pulmonary thromboemboli were noted throughout both lungs with a left upper lung lobe infarct and a right lower lung lobe infarct. There were bilateral deep vein thromboses in the legs. Dr Francis identified 1750mL of liquid and clotted blood within Mrs Dorter's left pleural cavity. The source of this haemorrhage was not identified during the post mortem examination. Recent haemorrhages were also noted in the ovaries, thyroid and small and large bowel mesentery. Dr Francis reported that haemorrhagic shock[3] is a potential complication of pulmonary thromboembolism.

10. Dr Francis ascribed the cause of Mrs Dorter's death to haemorrhagic shock complicating pulmonary thromboembolism in the setting of deep vein thromboses following a foot fracture sustained in a fall.

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[2] Body Mass Index (BMI) uses weight and height to determine if an adult is within the healthy weight range, underweight, overweight or obese. A BMI of 38 falls within a range considered to be obese.

[3] Low blood pressure from bleeding.

Coroners Prevention Unit Review

11. I asked the Coroners Prevention Unit (CPU)[4] to review the circumstances surrounding Mrs Dorter's death, in particular in relation to whether adequate venous thromboembolism (VTE) prophylaxis was provided. The review encompassed Mrs Dorter's medical records from Primary Medical and Dental Care Forest Hill, Dr Francis' report and a statement made by Dr Premysl Kunz.

12. The review established that the care provided by the general practitioners was considered and thorough. In particular, it was observed that the initial assessment and management was reasonable. In addition, advice to Mrs Dorter regarding mobilisation of the foot was provided. Mrs Dorter's increased risk of PE due to her prior breast cancer was considered and Dr Kunz consulted with a haematologist. Dr Kunz also arranged an orthopaedic review to expedite the replacement of the plaster with a CAM boot so that Mrs Dorter could weight bear. The review concluded that the care provided to Mrs Dorter was reasonable and appropriate, and that the doctors considered her risk of VTE and consulted appropriately regarding prophylaxis.

13. The review identified that obesity is a recognised risk factor for the development of thromboembolic disease, and there has been an emerging increase in deaths from VTE thromboembolism, involving patients with a high BMI. A recent search of the National Coronial Information System database, identified that between 2000 and 2014, there were 43 obese outpatients who had been immobilised, who died in Victoria from DVT or PE. Several subgroups of obese patients who appear to have an increased risk of death from PE were identified. These subgroups included: those with minor trauma who are immobilised and treated as outpatients, such as Mrs Dorter; those who are pregnant; and those who have had orthopaedic or bariatric surgery. However, it was also noted that it may be that all obese patients have an increased risk of PE.

14. The review identified that there are currently no guidelines regarding VTE prophylaxis in the outpatient population. The National Health and Medical Research Guidelines (NHMRC) 2009 for VTE prophylaxis only apply to in-patients and are now considered out of date. The review

[4] The Coroners Prevention Unit (CPU) was established in 2008 to strengthen the prevention role of the coroner. The unit assists the coroner with research in matters related to public health and safety and in relation to the formulation of prevention recommendations, as well as assisting in monitoring and evaluating the effectiveness of the recommendations. The CPU comprises a team with training in medicine, nursing, law, public health and the social sciences.

referred to the Finding in the case of Bampton,[5] in which Her Honour Coroner English recommended a revision of the NHMRC guidelines, including the incorporation of obese outpatients into the VTE prophylaxis guidelines. Her Honour made the recommendations to the NHMRC, who responded that it was no longer within their remit to revise the guidelines, but that they would contact the Australian Commission on Safety and Quality in Healthcare (ACSQHC) to advise this inclusion when it revised the guidelines.

15. Contact was subsequently made by the CPU with the ACSQHC, to ascertain whether guidelines were being reviewed and by whom. Subsequent communication revealed that the guidelines had not been reviewed and it was not clear who was going to review them. The ACSQHC's role related instead to commencing work on a clinical care standard.[6]

Further investigations

16. In light of the CPU's review, I directed that the Court make further enquiries with the National Health and Medical Research Council (NHMRC) and the Australian Commission on Safety and Quality in Health Care (ACSQHC).

17. The Court wrote to the NHMRC by letter dated 7 April 2017, and requested an explanation of who was responsible for the guideline revision. By way of letter dated 21 April 2017, Geraint Duggan, Director of Clinical Guidelines at the NHMRC wrote that the ACSQHC had advised that the VTE guidelines will not be updated.

18. Mr Geraint wrote that the NHRMC is immensely proud of the impact its VTE guideline has had on clinical practice in Australia, particularly in the systemic identification of at risk patients. However, it has no funding or plans to update the guideline, and is therefore unable to implement any recommendations regarding the content of future versions.

19. Mr Geraint advised that there was no single coordinating body that commissions and funds guidelines, in contrast to England and Scotland. As the issue of VTE prophylaxis spans several medical specialties, Mr Geraint advised contacting the Council of Presidents of Medical Colleges to make further recommendations regarding revision of guidelines.

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[5] COR 2011 4846.

[6] A clinical care standard identifies significant variances in practice in certain conditions, rather than prepares guidelines.

20. The Court was advised that the ACSQHC has commenced the development of a VTE Prevention Clinical Care Standard. The ACSQHC's website indicates that a clinical care standard is a small number of quality statements that describe the care patients should be offered by health professionals and health services for a specific clinical condition or defined clinical pathway, in line with current best evidence.[7] A topic working group has been established with experts from many fields. When the draft clinical care standard has been developed there will be a public consultation on the draft.[8] The ACSQHC website also notes that the NHMRC's key clinical guideline for VTE prevention was rescinded in 2016. The development of a VTE Prevention Clinical Care Standard had been proposed by state and territory health departments as a way of improving uptake of appropriate VTE prophylaxis strategies.[9]

Family concerns

21. By way of letter to the Court dated 20 May 2017, Hakan Dorter expressed a number of concerns in relation to his wife's death and provided a timeline of events between her fall on 8 February 2016 and her death on 2 March 2016.

22. Mr Dorter queried why Mrs Dorter's left foot was plastered all the way up to her knee by Dr Berryman on 8 February 2016, instead of using a moon or CAM boot. He also questioned why blood thinning medications such as rivaroxaban were not prescribed to Mrs Dorter, given she had risk factors including past breast cancer, varicose veins, was over 40 years of age and her leg was plastered up to her knee. In addition, Mr Dorter queried why signs of Mrs Dorter's DVT were not detected by Dr Berryman at the second consultation on 9 February 2016, or by Dr Kunz on 17 February 2016.

23. In his letter, Mr Dorter contended that Mrs Dorter should have been treated with a CAM boot, should have received anticoagulant medication, and that her complaints of tightness of the

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[7] See: Australian Commission on Safety and Quality in Health Care, 'Overview of Clinical Care Standards', available online at: https://www.safetyandquality.gov.au/our-work/clinical-care-standards/overview-of-the-clinical-care-standards/, accessed on 10 August 2017.

[8] See: Australian Commission on Safety and Quality in Health Care, 'Project Information', available online at: https://www.safetyandquality.gov.au/our-work/clinical-care-standards/venous-thromboembolism-prevention-clinical-care-standard/project-information/, accessed on 10 August 2017.

[9] See: See: Australian Commission on Safety and Quality in Health Care, 'Venous Thromboembolism Prevention Clinical Care Standard', available online at: https://www.safetyandquality.gov.au/our-work/clinical-care-standards/venous-thromboembolism-prevention-clinical-care-standard/, accessed on 10 August 2017.

plaster cast, a burning feeling on her leg, strong swelling and a change in skin colour should have raised a red flag of DVT.

24. Mr Dorter observed that it would be beneficial for medical professionals to be distributed articles pertaining to reducing the risk of blood clots for patients with plaster casts, and observed that in the United Kingdom, 'East Kent Hospitals University NHS Foundation Trust' is distributing similar leaflets.

25. By way of email dated 22 May 2017, Sach Fernando of Zaparas Lawyers, provided additional material to the Court, including a second statement by Dr Kunz dated 16 March 2017, a report from the Austin Hospital dated 14 January 2017, correspondence from Dr Denise van Vugt, Medico-Legal Officer at Eastern Health dated 12 January 2017, Mrs Dorter's discharge summary from the Austin Hospital dated 16 March 2016, and an operation report dated 24 February 2016.

COMMENTS

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

1. In light of the prevalence of deaths involving venous thromboembolism in the coronial jurisdiction, and given that treatment and detection of this issue spans multiple medical specialities, it is concerning that a nationally consistent approach to detecting and preventing deaths from pulmonary embolism or deep vein thrombosis no longer exists. The NHMRC has advised the Court that it does not have any intention – or access to funding – to update its 2009 venous thromboembolism guideline. Given the NHMRC's acknowledgment of the guideline's positive impact upon clinical practice in Australia, and in the systemic identification of at risk patients, this status quo presents as untenable. The clinical standards being developed by the Australian Commission on Safety and Quality in Health Care are a positive initiative. However, clinical standards are different from guidelines, in that they are less specific and less capable of being responsive to recommendations. A consistent, current guideline for clinicians to rely upon to detect signs of venous thromboembolism is overdue.

FINDINGS

I acknowledge the grief endured by Mrs Dorter's family in the wake of her death, and the concerns expressed by Mr Dorter in his letter to the Court dated 20 May 2017.

The investigation into Mrs Dorter's death has identified that there is no current, national guideline for the prophylaxis of venous thromboembolism in Australia. However, despite this state of confusion and lack of clarity for clinicians, the evidence in this particular investigation suggests that Mrs Dorter received reasonable and appropriate care. In particular, I note that Dr Kunz was alert to the risk of venous thromboembolism, and consulted specialists regarding prophylaxis. I have not identified evidence that Mrs Dorter's death could have been prevented.

I accept and adopt the medical cause of death as identified by Dr Victoria Francis and find that following a foot fracture sustained in a fall, Magdalena Dorter died from haemorrhagic shock complicating pulmonary thromboembolism in the setting of deep vein thromboses.

RECOMMENDATIONS

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

1. With a view to preventing like deaths and creating a consistent approach across medical specialities, **I recommend** that consideration be given by the Honourable Jill Hennessy, the Victorian Minister for Health, to the need to encourage and support the development of new venous thromboembolism guidelines.
2. With a view to preventing like deaths and creating a nationally consistent approach across medical specialities, **I recommend** that consideration be given by the Council of Presidents of Medical Colleges to encourage and support the development of new, national venous thromboembolism guidelines.

Pursuant to section 73(1A) of the *Coroners Act 2008,* I order that this Finding be published on the internet.

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

Mr Hakan Dorter

Mrs Pauline Chapman, Austin Health

Mr Sach Fernando, Zaparas Lawyers

Mr John Petts, TressCox Lawyers, on behalf of Dr Kunz

Mr Robert Shepherd, Wisewould Mahony Lawyers, on behalf of WorkSafe Victoria

Mr Geraint Duggan, Director of Clinical Guidelines, National Health and Medical Research Council

The Council of Presidents of Medical Colleges

Australian Commission on Safety and Quality in Health Care

Signature:

AUDREY JAMIESON
CORONER
Date: **14 August 2017**