IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: 2011 3238

FINDING INTO DEATH WITHOUT INQUEST

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

I, PARESA ANTONIADIS SPANOS, Coroner,
having investigated the death of ALAN VICTOR WEBSTER
without holding an inquest:
find that the identity of the deceased was ALAN VICTOR WEBSTER
born on 4 November 1929
and the death occurred on 29 August 2011
at The Austin Hospital, 145 Studley Road, Heidelberg, Victoria 3084
from:

1 (a) INTRACEREBRAL HAEMORRHAGE IN THE SETTING OF HEPARINISATION FOR SUBCLAVIAN ARTERY THROMBOSIS

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

1. Alan Victor Webster was an 81-year-old married man with a medical history that included atrial fibrillation, mitral valve repair in 1992, and permanent pacemaker insertion in 2007. Mr Webster had been prescribed anticoagulant medication, Warfarin, for approximately 20 years. Melbourne Pathology records demonstrate his International Normalised Ratio [INR] was measured regularly and had been stable at 2.0 for several months on a dose of 2mg, alternating with a dose of 2.5mg of Warfarin daily. Mr Webster's target INR was 2.0 and his INR considered therapeutic when between 2.0 and 2.5.

2. On 22 August 2011, Mr Webster underwent a colonoscopy performed by Dr Anthony Mariani at Reservoir Private Hospital for the investigation of polyps. Mr Webster's Warfarin was ceased prior to the colonoscopy due to the increased risk of bleeding when taking anticoagulants. Dr Mariani developed a plan for the cessation and re-introduction of Warfarin

and provided Mr Webster with a limited supply of Clexane[1] to be injected subcutaneously as a 'bridging' anticoagulation therapy until his INR returned to the target therapeutic range. Mr Webster was advised by Dr Mariani to resume his normal dose of Warfarin on the day after the colonoscopy and to have his INR measured post-operatively and then as directed by Melbourne Pathology.

3. On 24 and 26 August 2011, Mr Webster's INR was measured and found to be sub-therapeutic at 1.2 and 1.1 respectively. He was advised by Melbourne Pathology to maintain his usual Warfarin dose despite his low INR.

4. On 28 August 2011, Mr Webster was rushed to the Austin Hospital as he had developed an ischemic right arm secondary to a brachial artery clot. Mr Webster was taken to theatre at 2pm where a brachial artery embolectomy was performed and his arm revascularised. Post-operative orders stated that intravenous Heparin should commence at 4pm but the infusion did not commence until 5pm.

5. At 11.41pm on 28 August 2011, Mr Webster's activated partial thromboplastin time [APTT][2] was greater than 200 seconds and so the Heparin infusion was ceased, in accordance with the Austin Hospital's Heparin infusion protocol. The treating doctor noted that Mr Webster's APTT would be considered therapeutic between 60 and 85 seconds and ordered that his APTT be re-tested.[3]

6. At 3.11am on 29 August 2011, Mr Webster's APTT was 58 seconds and so, in accordance with the hospital's protocol, Heparin infusion was recommenced at 5am. At 10.27am, Mr Webster's APTT was 67 seconds.

7. At 11.40am, Mr Webster's Glasgow Coma Score had declined to three out of 10, indicating a significantly reduced state of consciousness or coma. The medical emergency team was alerted, Heparin was ceased, Mr Webster was intubated and an urgent computerised tomography [CT] of his brain performed. The CT demonstrated that Mr Webster had sustained an extensive cerebellar haemorrhage.

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[1] Clexane is a low molecular weight Heparin or anticoagulant that does not affect a patient's INR.

[2] The activated partial thromboplastin time or APTT is a measurement of the time taken for blood to coagulate. Although "normal" APTT values vary between testing laboratories, time

[3] There is evidence in Mr Webster's medical record that the treating doctor was suspicious that the APTT sample had been drawn from the heparin intravenous line, given the high APTT result; that is, that the APTT recorded at 11.41pm on 28 August 2011 was a falsely elevated reading.

8. Following a discussion between medical staff and Mr Webster's family concerning his poor prognosis, Mr Webster was palliated in the Intensive Care Unit and died at 5.15pm on 29 August 2011.

9. Senior Forensic Pathologist, Dr Matthew Lynch, from the Victorian Institute of Forensic Medicine performed an external examination of Mr Webster's body, including the analysis of post-mortem CT, and reviewed the circumstances of his death as reported by police to the coroner. In his report, Dr Lynch ascribed the reasonable cause of Mr Webster's death to intracerebral haemorrhage in the setting of heparinisation for subclavian artery thrombosis, without the need for an autopsy. Post-mortem toxicological analysis detected Midazolam, Metoclopramide, Morphine free, Warfarin and Paracetamol at levels consistent with their therapeutic administration.

10. Mrs Webster wrote to the Court on 12 November 2011 to express her concern that the management of her late husband's anticoagulation therapy at the time of his colonoscopy and immediately thereafter had contributed to Mr Webster's death. Mrs Webster was particularly concerned about Dr Mariani's plan to transition Mr Webster back onto Warfarin post-operatively and the adequacy of Melbourne Pathology's dosing practises given her husband's sub-therapeutic post-operative INR results.

11. At my request, the Health and Medical Investigation Team [HMIT] from the Coroners Prevention Unit[4] [CPU] conducted a review of the clinical management of Mr Webster's anticoagulation therapy at the time of, and immediately following, his colonoscopy. In order to complete its evaluation, the HMIT examined Mr Webster's medical records from the Austin Hospital, Melbourne Pathology, his consultations with Dr Mariani and general practitioner, Dr Lipson.

12. In order to complete the investigation into the adequacy of the clinical management of Mr Webster's anticoagulation therapy, the HMIT requested supplementary information from Mrs Webster, Drs Mariani and Lipson, and I requested an independent expert opinion from haematologist, Dr Barnes on this issue.

13. It is convenient to examine the relevant evidence from each source in turn.

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[4] The Coroners Prevention Unit was established in 2008 to assist coronial investigations and the formulation of coronial recommendations and comments aimed at "prevention".

Dr LIPSON

14. Dr Lipson had been Mr Webster's general practitioner for more than a decade. Mr Webster was "on long term Warfarin therapy, a consequence of previous mitral valve replacement and deep vein thrombosis".[5] Mr Webster had attended a Melbourne Pathology collection centre within his clinic for many years – "without contact with me" – and that Mr Webster's Warfarin was "lab dosed" by Melbourne Pathology.[6]

15. Dr Lipson referred Mr Webster to Dr Mariani for a colonoscopy in June 2011 and was last consulted by Mr Webster, in relation to an unrelated matter, in July 2011.[7]

16. Dr Lipson stated that he was "unaware of the timing of Mr Webster's colonoscopy or the subsequent plan".[8]

17. On 16 September 2011, Dr Lipson received a discharge summary from Dr Mariani in relation to the colonoscopy he performed on Mr Webster in August. Dr Mariani's correspondence did not refer to Mr Webster's anticoagulation therapy or its post-operative management.[9]

Dr MARIANI

18. Mr Webster's general practitioner referred him to Dr Mariani for a follow up colonoscopy due to a history of colonic polyps. Mr Webster accompanied by his wife, consulted Dr Mariani on 13 August 2011.[10] Following an examination, a colonoscopy was scheduled on 22 August 2011 at Reservoir Private Hospital.[11]

19. Dr Mariani was aware of Mr Webster's history of "mitral valve repair, atrial fibrillation, pacemaker insertion and then popliteal artery embolism" and that he had taken Wafarin for many years.[12] Thus, in addition to providing Mr Webster verbal and written instructions concerning bowel preparation pre-colonoscopy, Dr Mariani explained the need for "transition

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[5] There is a lack of clarity across Mr Webster's medical records – identified by the HMIT and Drs Maxwell and Barnes – as to whether Mr Webster's medical history included mitral valve replacement or repair.

[6] Correspondence received by the court from Dr Lipson dated 31 October 2014.

[7] Correspondence received by the court from Dr Lipson dated 1 November 2012 and 31 October 2014.

[8] Correspondence received by the court from Dr Lipson dated 31 October 2014.

[9] See the medical records maintained by the Dundas Street Medical Centre in relation to Mr Webster.

[10] Correspondence received by the court from Dr Mariani dated 10 November 2014.

[11] Ibid.

[12] Ibid.

therapy" from Warfarin to Clexane pre-operatively and the need to transition back, from Clexane to Warfarin, post-operatively.[13]

20. Dr Mariani provided instructions to Mr Webster about the "transition therapy" he designed. That is, Mr Webster was not to take Warfarin between 17 and 22 August 2011, and between 19 and 21 August 2011 was to administer 80mg of Clexane by subcutaneous injection each morning and night.[14] Dr Mariani's hand-written notes of the pre-operative "transition therapy" schedule were provided to Mr Webster.[15]

21. Following the colonoscopy on 22 August 2011, Mr Webster was advised to inject 80mg of Clexane on the evening of the procedure, resume Warfarin on 23 August 2011at his usual dose and continue with twice-daily 80mg Clexane injections until his INR from Warfarin therapy reached a therapeutic level of greater than 2.0.[16]

22. Dr Mariani provided Mr Webster with a prescription for Clexane (10 syringes of 80mg each) at the 13 August 2011 consultation.[17]

23. On 22 August 2011, Dr Mariani performed a colonoscopy on Mr Webster and there were no complications.

24. Prior to Mr Webster's discharge from Reservoir Private Hospital, Dr Mariani discussed the colonoscopy findings and provided specific instructions about the "transition therapy". In addition to re-iterating the post-operative "transition therapy" instructions above, Dr Mariani advised Mr Webster to attend his general practitioner "in the next two to three days, specifically to obtain a further prescription of Clexane for the continuation of bridging treatment until the INR, from the re-instated Warfarin, reached a level of 2.0 or greater".[18]

25. Mr Webster was advised to contact Dr Mariani or attend an emergency department should he experience post-operative bleeding or pain.

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[13] Correspondence received by the court from Dr Mariani dated 10 November 2014.

[14] Ibid.

[15] A copy of the written pre-operative bowel preparation and "transition therapy" instructions Dr Mariani provided form part of the Coronial Brief of Evidence, see pages 84 and 85. Dr Mariani and Mrs Webster agree that written post-operative/discharge instructions were given to Mr Webster on 22 August 2011 but no copy of those instructions exists and so the substance of those instructions cannot be corroborated.

[16] Correspondence received by the court from Dr Mariani dated 11 August 2012.

[17] Correspondence received by the court from Dr Mariani dated 10 November 2014.

[18] Ibid.

26. Dr Mariani gave Mr Webster a copy of the colonoscopy report, addressed to Dr Lipson, to hand to the general practitioner on his visit.

27. A senior registered nurse gave Mr Webster written post-operative instructions that "referred to all of the above points" when discharged.[19]

28. Dr Mariani was confident that Mr Webster and his wife understood the "transition therapy" and "were quite competent to follow the instructions".[20]

29. Mr Webster did not contact Dr Mariani after the colonoscopy.

Mrs WEBSTER

30. Mrs Webster stated that her husband had been prescribed Warfarin for about 20 years and so was used to taking the medication and having blood tests so that his INR could be monitored and maintained within his target range of between 2.0 and 2.5.

31. Mrs Webster recalled Dr Mariani's plan to transition her husband off Warfarin and onto Clexane prior to his colonoscopy and to transition back onto Warfarin post-operatively.[21]

32. Mrs Webster confirmed that Mr Webster received written instructions from Dr Mariani about the pre-operative "transition therapy"[22] and that she and her husband followed Dr Mariani's instructions "to the letter".[23] Mrs Webster administered her husband's Clexane injections because she had administered Clexane to herself in the past.[24]

33. Mrs Webster does not recall that her husband was given verbal or written instructions by anyone at the time he was discharged from Reservoir Private Hospital.[25]

34. Mrs Webster stated that her husband resumed his usual Warfarin dose post-colonoscopy and that Clexane was administered morning and evening until the supply of syringes prescribed by Dr Mariani was exhausted.[26]

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[19] Ibid. As mentioned above, no copy of post-operative instructions now exists.

[20] Ibid.

[21] Correspondence received by the court from Mrs Webster dated 12 November 2011.

[22] Coronial Brief of Evidence pages 6 and 7 (Statement of Mrs Webster).

[23] Ibid.

[24] Ibid.

[25] Ibid.

[26] Correspondence received by the court from Mrs Webster dated 12 November 2011.

35. Mrs Webster confirmed that Mr Webster's INR on 24 and 26 August 2011 was sub-therapeutic and that Melbourne Pathology did not advise him to change his usual dose. Despite their concerned that no change of dose was advised by Melbourne Pathology given "very low" INR results, Mrs Webster stated that Mr Webster followed the directions provided and continued to take his usual Warfarin dose.[27]

36. Mrs Webster recollects that her husband was advised by Dr Mariani to see his general practitioner, Dr Lipson, "when he had finished the course of Clexane".[28] Mrs Webster understood that the purpose of the appointment was for "follow up of the colonoscopy and general check up". Mr Webster had an appointment with Dr Lipson scheduled on 29 August 2011.[29]

MELBOURNE PATHOLOGY – Dr MAXWELL

37. Dr Maxwell, Director of Haematology at Melbourne Pathology, reviewed Melbourne Pathology's 10-year computerised history of Mr Webster's INR management when preparing her statement.

38. Dr Maxwell noted that Mr Webster's indication for anticoagulation was recorded as atrial fibrillation[30] and that his INR target was 2.0, with a therapeutic INR range of between 1.5 and 2.5.[31]

39. Mr Webster's INR had been monitored regularly and was on target and stable on a Warfarin dose of 2mg alternating with 2.5mg since October 2010.[32]

40. Dr Lipson was the only doctor recorded for receipt of INR results.[33]

41. Mr Webster's anticoagulation therapy had been interrupted for surgical procedures on five occasions between 2005 and 2009. According to Melbourne Pathology's records, none of these interruptions to Mr Webster's Warfarin therapy had been accompanied by the administration of

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[27] Ibid.

[28] Coronial Brief of Evidence pages 6 and 7 (Statement of Mrs Webster).

[29] Ibid.

[30] Coronial Brief of Evidence pages 10-15 (Statement of Dr Maxwell). Note that Dr Maxwell refers to there being confusion within Mr Webster's Melbourne Pathology records as to whether or not he had a mitral valve repair and a titanium heart valve. Dr Maxwell notes that the anticoagulant indication of atrial fibrillation was confirmed directly with Mr Webster's cardiothoracic surgeon in July 2001.

[31] Coronial Brief of Evidence page 10.

[32] Coronial Brief of Evidence page 12.

[33] Coronial Brief of Evidence page 11.

bridging Clexane. Moreover, the reintroduction of Warfarin and achievement of a therapeutic INR postoperatively had occurred without any change in dose or a direction from Melbourne Pathology that a loading dose of Warfarin should be taken by Mr Webster.[34]

42. Melbourne Pathology records showed that Mr Webster had been admitted to St Vincent's Hospital in September 2009, and although the hospital had provided Warfarin dose information for that admission, no other discharge information had been forthcoming.

43. Dr Maxwell confirmed that Melbourne Pathology records reflected that Mr Webster's Warfarin therapy would be ceased between 15 and 22 August 2011 so that a colonoscopy could be performed. There was a notation that Clexane would be administered between 18 and 24 August 2011. Records indicated that Mr Webster had taken his usual dose of Warfarin on 24 August 2011 and that his INR was 1.2 and 1.1 on 24 and 26 August 2011 respectively.[35]

44. Dr Maxwell stated that a computer algorithm determined anticoagulant dosing and dates of review for stable patients. New, unstable and recently discharged patients and those with recent medication, health or treatment changes had INR results reviewed by a haematologist who then determined appropriate dosing levels and review periods.[36]

45. Mr Webster had been dosed by a consultant haematologist on both 24 and 26 August 2011.[37]

46. Dr Maxwell stated that Mr Webster's Warfarin dose was not altered despite sub-therapeutic INRs on 24 and 25 August 2011 because –

    a. Mr Webster had a well defined maintenance dose of 2mg alternating with 2.5mg of Wafarin which had remained unchanged since October 2010.

    b. Mr Webster's records did not indicate that he was at 'high risk' of thrombotic complication (an adverse clotting incident) such as an individual with a mechanical mitral valve, recent venous thromboembolism or recent stroke in the setting of atrial fibrillation.

    c. The prescription of bridging anticoagulation therapy (eg. Clexane) is a determination made by the referring medical practitioner and one usually reserved for patients

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[34] Ibid.

[35] Ibid.

[36] Coronial Brief of Evidence page 12.

[37] Ibid.

deemed to be at 'high risk' of thrombotic complication. However, the therapeutic utility of bridging therapy is controversial and poorly substantiated by evidence.

d. Where patients are deemed to be 'high risk' and bridging therapy has been prescribed, it would be appropriate for Clexane to be used and continued as until the patient is adequately anti-coagulated, and for a loading dose of Warfarin to be used to try to reduce the period of time for which the patient is receiving Clexane injections.

e. Melbourne Pathology records, particularly atrial fibrillation as the indication for anticoagulants and the target INR in place since 2001, define Mr Webster as a patient at 'low risk' of thrombotic complication. Thus, it is acceptable to allow a patient to equillibriate more slowly by recommencing at their defined maintenance dose. This approach avoids the risk of over-shooting the patient's target INR resulting in a substantial risk of bleeding. This gradual equilibriation method of management had been used historically when Mr Webster's Warfarin therapy had been interrupted.[38]

EXPERT OPINION – Dr BARNES

47. Dr Barnes, a specialist haematologist, had the benefit of Mr Webster's medical records, pathologist Dr Lynch's report, Dr Maxwell's statement, correspondence from and the statement made by Mrs Webster, and Drs Lipson and Mariani's correspondence with the court in 2012 when preparing his expert opinion in 2013. Dr Barnes was never provided with correspondence between Dr Mariani and the court in 2014.[39]

48. Dr Barnes' assessment was that Mr Webster should have been considered at "high risk" of adverse clotting incidents given his past history of atrial fibrillation and the probable cardiogenic aterial thromboembolism he developed in 2010.[40]

49. Therefore bridging anticoagulation therapy was appropriate because Mr Webster was at clear risk of developing complications around a necessary bowel screening procedure.[41]

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[38] See generally Coronial Brief of Evidence pages 12-14.

[39] In Dr Mariani's 2014 correspondence with the Court he stated that Mr Webster was given written personalised discharge instructions that included directions in relation to post-operative anticoagulation therapy by a Senior Registered Nurse.

[40] Coronial Brief of Evidence page 26 (Opinion of Dr Barnes).

[41] Ibid.

50. The bridging anticoagulation Mr Webster received pre-operatively is "entirely consistent with clinical recommendations and standard practice".[42]

51. On the basis of the information received (which did not include Dr Mariani's assertion that written instructions for "transition therapy" were provided to Mr Webster post-colonoscopy), Dr Barnes stated that Mr Webster's "post-operative course was complicated by lack of clearly written instructions regarding management of anticoagulation and re-introduction of Warfarin therapy/continuing Clexane therapy".[43]

52. Dr Barnes stated that "four parties were involved in [Mr Webster's] management (including the patient)":

    a. Dr Mariani provided verbal instructions, that if followed by the patient, may have avoided post-operative complications;

    b. Both Dr Lipson and Melbourne Pathology appeared to be unaware of their responsibility in the patient's post-operative management;

    c. If more accurate information had been provided to Melbourne Pathology (including the history of previous thromboembolism of cardiac source) it is possible that measures may have been put in place to react more aggressively to Mr Webster's low post-operative INR readings.[44]

53. Dr Barnes recommended as a matter of good clinical practice, written post-operative instructions ought to be provided to patients considered at high risk of thromboembolism and having bridging anticoagulation for procedures and, that communication between specialised, general practitioners and pathology providers should be enhanced to ensure a greater flow of information regarding medical history and indication for Warfarin therapy.[45]

HMIT

54. The HMIT concluded that Dr Mariani took adequate precautions to minimise the risk of an adverse clotting incident during the period of Warfarin cessation for Mr Webster's colonoscopy by prescribing pre-operative and post-operative Clexane.

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[42] Ibid.

[43] Coronial Brief of Evidence page 26.

[44] Ibid.

[45] Coronial Brief of Evidence page 27.

55. However, the HMIT determined that Dr Mariani's communications with Mr Webster and Dr Lipson were sub-optimal. Dr Lipson had no knowledge of the timing of Mr Webster's colonoscopy, nor of the anticoagulation "transition therapy" designed by Dr Mariani, and the role he may be required to play in that therapy. Moreover, despite Dr Mariani's communications with Mr Webster, it is evident that the goals of the post-operative "transition therapy" and in particular that Clexane should be continued until his INR became therapeutic, was not appreciated by the Mr Webster, or his wife.

56. The HMIT noted that a Melbourne Pathology consultant haematologist provided dosing advice to Mr Webster post-operatively after consideration of his known medical history. Thus, the HMIT concluded that Melbourne Pathology's management of Mr Webster's anticoagulation therapy was thorough and that there was not a clear indication that his Warfarin dose should be adjusted despite his low post-operative INR result.

CONCLUSIONS

57. The standard of proof for coronial findings of fact is the civil standard of proof, on the balance of probabilities, with the *Briginshaw* gloss or explication.[46] The effect of the authorities is that Coroners should not make adverse findings against or comments about individuals, unless the evidence provides a comfortable level of satisfaction that they caused or contributed to the death.

58. It is clear that Dr Mariani appreciated that the cessation and re-introduction of Mr Webster's Warfarin therapy to facilitate a colonoscopy required careful clinical management. Dr Mariani understood Mr Webster's medical history to include mitral valve repair, atrial fibrillation, and popliteal artery embolism and so judged that bridging Clexane therapy was indicated when Mr Webster's Warfarin was stopped and/or his INR sub-therapeutic.

59. Notwithstanding the controversy among specialist medical practitioners concerning the indications for, and efficacy of, bridging Clexane therapy, I find on the basis of the available evidence, that it was reasonable and appropriate for Dr Mariani to manage Mr Webster's peri-operative anticoagulation therapy with bridging Clexane, and that the "transition therapy" regime he designed was appropriate in the circumstances.

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[46] *Briginshaw v Briginshaw (1938) 60 C.L.R. 336 esp at 362-363.* "The seriousness of an allegation made, the inherent unlikelihood of an occurrence of a given description, or the gravity of the consequences flowing from a particular finding, are considerations which must affect the answer to the question whether the issues had been proved to the reasonable satisfaction of the tribunal. In such matters "reasonable satisfaction" should not be produced by inexact proofs, indefinite testimony, or indirect inferences..."

60. I find that Dr Mariani communicated the pre-operative requirements of his "transition therapy" – verbally and in writing – to Mr Webster, and his wife, at their 13 August 2011 consultation. I find that the manner in which Dr Mariani communicated medical advice on this occasion enabled Mr Webster to understand and follow the advice he was given.

61. The accounts provided by Dr Mariani and Mrs Webster about the form and substance of Dr Mariani's post-operative "transition therapy" instructions are very different, and they differ in ways that are significant to the coronial investigation of Mr Webster's death. In the absence of a copy of the post-operative written instructions provided to Mr Webster at discharge from Reservoir Private Hospital, I must rely on the parties' recall of events and in doing so I accept that Dr Mariani and Mrs Webster have used their best efforts to provide accurate accounts of what occurred. Unfortunately, their accounts are irreconcilable.

62. There is no evidence to suggest that Mr Webster would have disregarded instructions given to him by a treating doctor. On the contrary, the evidence supports a finding that both he, and Mrs Webster, were careful and compliant with instructions from any medical practitioners, particularly about Warfarin therapy. However, there is evidence to support a finding that irrespective of what Dr Mariani actually said or wrote or intended to convey to Mr Webster about this post-operative "transition therapy", Mr Webster did not understand the substance of Dr Mariani's instructions. Significantly, it is evident that neither Mr nor Mrs Webster understood that Dr Mariani intended that (a) Mr Webster remain on bridging Clexane therapy until his INR became therapeutic and (b) Dr Lipson manage Mr Webster's post-operative anticoagulation therapy, including the provision of further Clexane prescriptions if his INR was sub-therapeutic when Dr Mariani's prescription had been used.

63. I find that Dr Mariani's ineffective communication with Mr Webster concerning post-operative anticoagulation therapy contributed to incomplete execution of Dr Mariani's "transition therapy" and the adverse clotting incident that followed and lead to Mr Webster's death.

64. The importance of accurate, complete and comprehensible information in the health care setting is obvious. Accordingly, I note with approval Dr Barnes' comments about the importance of information sharing among the health professionals involved in the clinical management and care of patients and for there to be clarity of communication between practitioners about their respective areas of responsibility.

65. I find that Dr Mariani did not communicate with Dr Lipson at all about the need for the general practitioner to oversee Mr Webster's post-operative anticoagulation therapy. Dr Mariani's

colonoscopy report, which he intended would be hand-delivered by the patient to Dr Lipson shortly after surgery, did not refer to the need for anticoagulation therapy oversight. A better practice would have been for Dr Mariani to communicate specific post-operative anticoagulation therapy instructions directly to Dr Lipson in a timely manner, and that these instructions be in substantially the same terms as those used to advise Mr Webster. Had Dr Mariani communicated with Dr Lipson in this way, Dr Lipson may have been able to facilitate compliance with Dr Mariani's post-operative anticoagulation regime.

66. It is a truism that as Australia's health care system is presently organised, general practitioners are the 'front line' providers of health care and management. As such, they are the primary repositories of information about their patients' medical histories and bear a significant burden of responsibility in executing their roles of general practitioner and coordinator of allied health services.

67. Dr Lipson did not initiate Mr Webster's referral for anticoagulation therapy or direct that his INR be monitored by Melbourne Pathology. However, Dr Lipson was the general practitioner regularly consulted by Mr Webster, the doctor to whom allied health specialists and institutions reported and the only doctor to whom INR results were provided, for more than 10 years. In short, Dr Lipson was the repository of Mr Webster's medical history and the co-ordinator of health services provided to him. While Dr Lipson cannot be criticised for failing to oversee Mr Webster's post-operative anticoagulation "transition therapy" in circumstances where he was not informed of the need to do so, the same cannot be said of his coordination of Mr Webster's health care.

68. I note Dr Barnes' comment that it is vital that haematology laboratories have accurate and complete information about a patient's indication for Warfarin and his/her medical history (including adverse clotting incidents) because these types of information inform risk assessments and dosing decisions.

69. I note the conflicting information about Mr Webster's indication for Warfarin therapy borne out by statements made by Drs Lipson, Mariani, Maxwell and Barnes in the course of this investigation. I further note that significant absence of information about Mr Webster's prior adverse clotting incident in 2010 from Melbourne Pathology medical records.

70. I find that despite a comprehensive discharge summary being provided to Dr Lipson concerning Mr Webster's 2010 St Vincent's Hospital admission, Melbourne Pathology were not aware that the admission related to an adverse clotting incident, namely a bilateral lower limb acute

ischaemia. Notably, Melbourne Pathology had not had cause to manage an interruption of Mr Webster's Warfarin therapy after his 2010 admission to St Vincent's Hospital until the interruption that occurred to facilitate a colonoscopy in August 2011. Consequently, on the basis of the evidence provided by Drs Maxwell and Barnes in particular, I find that the above-mentioned factors were likely to have been relevant to Melbourne Pathology's management of his anticoagulation therapy following the interruption of Warfarin in August 2011.

71. Based on the evidence before me, I find that Melbourne Pathology's management of Mr Webster's anticoagulation therapy on 24 and 26 August 2011was thorough, and that there was no clear indication in the available medical records that his Warfarin dose should have been adjusted despite his low INR results.

72. In accordance with the advice provided by Senior Forensic Pathologist, Dr Lynch, I find that Mr Webster died of an intracerebral haemorrhage in the setting of heparinisation for subclavian artery thrombosis on 29 August 2011. I find that sub-optimal communication – between Dr Mariani and his patient; between Drs Mariani and Lipson, and between Dr Lipson and Melbourne Pathology – indirectly contributed to the adverse clotting incident Mr Webster experienced post-colonoscopy and, ultimately, to his death.

73. I note that the family did not raise any concerns about, and I did not investigate, the clinical management and care provided to Mr Webster at the Austin Hospital, and so while I cannot endorse that clinical management and care, no adverse comment or finding should be implied.

COMMENTS

Pursuant to section 67(3) of the Coroners Act 2008, I make the following comment/s on a matter connected with the death:

1. Mr Webster's post-operative management would have been enhanced by a policy, procedure or guideline between Dr Mariani and Reservoir Private Hospital, that addressed -

   1.1 the provision of information to patients on anticoagulation therapy pre-operatively and post-operatively,

   1.2 including the manner in which information is to be provided to the patient and all care providers,

   1.3 the type of medication and the dosing and timing of administration,

1.4 and the assignment of responsibility for monitoring both the anticoagulation levels and the patient's adherence to the medication regime.

RECOMMENDATIONS

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

1. That the Royal Australasian College of General Practitioners reminds its member of the need to identify information clinically relevant to a patient's anticoagulation therapy and ensure that such information is communicated in a timely manner to the pathology laboratory or other medical practitioner monitoring the patient's anticoagulation therapy and INR levels.

2. That the Royal Australasian College of General Practitioners considers recommending to its members, that patients on anticoagulation therapy be reviewed by a haematologist at regular intervals.

3. That the Royal Australasian College of Physicians-Haematologists considers recommending to its members that they proactively seek from the general practitioners of their long-term anticoagulation therapy patients, an annual update of information that is clinically relevant to optimal anticoagulation therapy management, including indications for anticoagulation therapy, adverse clotting events, planned surgery, prescribed medications and other changes to the patient's circumstances.

4. That the Royal College of Pathologists of Australasia considers recommending to its members that they proactively seek from the general practitioners of their long-term anticoagulation therapy patients, an annual update of information that is clinically relevant to optimal anticoagulation therapy management, including indications for anticoagulation therapy, adverse clotting events, planned surgery, prescribed medications and other changes to the patient's circumstances.

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

The family of Mr Webster

Dr Anthony Mariani, Consultant Physician and Gastroenterologist

Dr Daniel Lipson, Medical Practitioner, Dundas Street Medical Clinic

Dr Ellen Maxwell, Director of Haematology and Medical Director of Melbourne Pathology

Ms Lynette Russell, Medico-legal Officer, Austin Health

Dr Chris Barnes, Melbourne Haematology

Royal Australasian College of General Practitioners

Royal Australasian College of Physicians-Haematology

Royal Australasian College of Pathologists

Signature:

Coroner Paresa Antoniadis Spanos

Date: **3 February 2015**

Cc: Manager, Coroners Prevention Unit