IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

COR 2020 005014

FINDING INTO DEATH WITHOUT INQUEST

Form 38 Rule 63(2)

*Section 67 of the **Coroners Act 2008***

Findings of:	Coroner Sarah Gebert
Deceased:	Mr V [1]
Date of birth:	[redacted] 1947
Date of death:	09 September 2020
Cause of death:	*Combined effects of cerebrovascular accident and subsequent iatrogenic related intracerebral haemorrhage and subarachnoid haemorrhage*
Place of death:	Monash Health, Monash Medical Centre, 246 Clayton Road, Clayton, Victoria

1. This finding has been de-identified by order of Coroner Sarah Gebert to replace the names of the deceased and his family members with pseudonyms to protect their identity and redact identifying information

INTRODUCTION

1. On 9 September 2020, Mr V was 73 years old when he died in the Intensive Care Unit (**ICU**) of Monash Medical Centre Clayton (**Monash Hospital**).

2. At the time of his passing, Mr V lived with his wife Mrs V in Mulgrave. He is also survived by his daughter [redacted] and her husband [redacted], his daughter [redacted] and her husband [redacted], and his grandchildren.

3. Mr V had a past medical history of hypertension and gastroesophageal reflux. At the time of his passing, his medications included temisartan[1] and esomeprazole[2].

THE CORONIAL INVESTIGATION

4. Mr V's death was reported to the Coroner as it fell within the definition of a reportable death in the *Coroners Act 2008* (**the Act**). Reportable deaths include deaths that are unexpected, unnatural or violent or result from accident or injury.

5. The role of a coroner is to independently investigate reportable deaths to establish, if possible, identity, medical cause of death, and surrounding circumstances. Surrounding circumstances are limited to events which are sufficiently proximate and causally related to the death. The purpose of a coronial investigation is to establish the facts, not to cast blame or determine criminal or civil liability.

6. Under the Act, coroners also have the important functions of helping to prevent deaths and promoting public health and safety and the administration of justice through the making of comments or recommendations in appropriate cases about any matter connected to the death under investigation.

7. This finding draws on the totality of the coronial investigation into the death of Mr V including evidence contained in Mr V's medical records. Whilst I have reviewed all the material, I will only refer to that which is directly relevant to my findings or necessary for narrative clarity. In the coronial jurisdiction, facts must be established on the balance of probabilities.[3]

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[1] Anti-hypertensive agent.
[2] Protin-pump inhibitor used to treat gastroesophageal reflux.
[3] Subject to the principles enunciated in *Briginshaw v Briginshaw* (1938) 60 CLR 336. The effect of this and similar authorities is that coroners should not make adverse findings against, or comments about, individuals unless the evidence provides a comfortable level of satisfaction as to those matters taking into account the consequences of such findings or comments.

MATTERS IN RELATION TO WHICH A FINDING MUST, IF POSSIBLE, BE MADE

Circumstances in which the death occurred

8. At approximately 11.00 am on 5 September 2020, Mr V experienced some weakness in his legs and lowered himself to the ground. When his weakness resolved, he got up and went inside where Mrs V noted he had a facial droop and slurred speech. Shortly after, Mrs V called an ambulance which transported him to the Monash Hospital Emergency Department (**ED**).

9. At 2.00 pm, registrar Dr Sahsi Munnanhi was ordering tests for patients in the waiting room. While no notes were written, a CT scan was ordered for Mr V with the clinical note being *CVA[4]/ Bell's palsy, headache, right facial droop*.

10. At 3.37 pm, Emergency Physician Dr Ananth Sundaralingam reviewed Mr V and documented in the electronic medical record, *a sudden onset of right sided facial droop with a sensation of difficulty pronouncing words* without any *headache or other visual or gait disturbance or new focal weakness/sensory disturbance*. Examination showed *mild facial asymmetry, only evident when smiling, forehead spared and symmetrical eye closing* with no other neurological abnormalities found. The CT brain was reported as being normal.

11. A diagnosis of mild Bell's palsy[5] was made, and a 5-day course of prednisolone[6] was prescribed. Mr V was advised to follow up with his GP in 3-days' time and advised to return to ED if any new symptoms arose, including new weakness, speech impairment or visual changes.

12. On 8 September 2020, Mr V noticed right-side weakness and difficulty speaking. An ambulance was called which transported him back to Monash ED where the working diagnosis of stroke was immediately made, and a 'code stroke' was made.

13. A CT brain with angiogram with perfusion study showed an occluded left internal carotid artery with an established infarct in the left basal ganglia and internal capsule and a large

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[4] Cerebrovascular Accident or 'stroke'.

[5] Bell's palsy is a form of weakness in the muscles of the face that will usually improve over months. It mostly affects only one side of the face and can result in the face looking uneven. The preservation of the ability to move the forehead and the ability to lift the affected eyelid may be the only clinical indication distinguishing a stroke from Bell's Palsy. Bell's palsy is caused by swelling or pressure on the nerve that supplies the face. This nerve passes from the brain to the face through a tiny hole in the skull. When swelling occurs in this area, the pressure stops the nerve working properly. The cause of Bell's palsy is unknown, however, infection or autoimmune responses may play a role. Bell's palsy is a clinical diagnosis, ie: it cannot be diagnosed on any CT scan.

[6] A steroid which decreases the severity and duration of symptoms.

ischaemic penumbra[7] in the middle cerebral artery territory. The decision was made to take Mr V for emergency Endovascular Clot Retrieval (**ECR**)[8]. Verbal consent was obtained from Mr V's wife with 'bleeding and intracerebral haemorrhage causing death' being the risks documented in the medical record.

14. During the ECR, the left internal carotid artery which supplies half the brain was perforated. This was recognised at the time and a coordinated effort between the neurosurgical team and the interventional radiologists were unsuccessful in stopping the bleeding. Mr V was transferred to the intensive care unit and sadly died on 9 September 2020.

Identity of the deceased

15. On 9 September 2020, Mr V, born [redacted] 1947, was visually identified by his wife, Mrs V.

16. Identity was not in dispute and required no further investigation.

Medical cause of death

17. Forensic Pathologist Dr Brian Beer from the Victorian Institute of Forensic Medicine conducted an examination on 11 September 2020 and provided a written report of his findings dated 17 September 2020.

18. The post-mortem examination showed findings in keeping with the clinical history. Post-mortem CT scans found lower thoracic vertebral fixation and an intracerebral right frontal haemorrhage. Also noted were ventricles and midline brainstem, and subarachnoid and subdural haemorrhages.

19. Dr Beer provided an opinion that the medical cause of death was *combined effects of cerebrovascular accident and subsequent iatrogenic related intracerebral haemorrhage and subarachnoid haemmorhage.*

20. I accept Dr Beer's opinion as to medical cause of death.

[7] Part of the brain which during a stroke is at risk of dying but is still potentially salvageable. A large ischaemic penumbra is an indication for intervention.

[8] ECR is the removal of large clots occluding a brain vessel through an intra-arterial approach. ECR is a highly specialised procedure only available at a limited number of tertiary hospitals.

FAMILY CONCERNS

21. During the coronial investigation, Mr V's family submitted concerns about the care Mr V received at Monash Health proximate to his passing. The family's concerns broadly related to:

    a) delays in the initial diagnosis and treatment of Mr V's stroke;

    b) the adequacy of the assessment, examination and investigations performed on 5 October 2020;

    c) the lack of communication with Mr V's family regarding his diagnosis and management plan; and

    d) the family's attempts to communicate with Monash ED about Mr V's symptoms following his initial discharge.

22. I acknowledge the family's concerns and expound upon my investigations and findings in relation to each of them below.

CORONER'S PREVENTION UNIT REVIEW

23. During the coronial investigation and in light of the family concerns raised, I referred this case to the Health and Medical Investigations Team of the Coroner's Prevention Unit (**CPU**)[9] for review. The CPU were asked to review the available evidence to consider whether Mr V's medical care was reasonable and appropriate in the circumstances, and to consider the concerns raised by Mr V's family.

Timeliness of initial stroke diagnosis and treatment

24. In his statement, Professor Carlos Schienkestel, Monash Health's executive director of Quality and Safety[10], said that investigations following death concluded that there had been a misdiagnosis in the Emergency Department and that:

[9] 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. The CPU also reviews medical care and treatment in cases referred by the coroner. The CPU is comprised of health professionals with training in a range of areas including medicine, nursing, public health and mental health.

[10] Dated 21 June 2021.

the delay in making the correct diagnosis had likely increased the clot burden[11] by the time that Mr V had presented to the Emergency Department three days later, which subsequently increased the technical difficulty of the endovascular clot retrieval (ECR) and the risk of complications, placing him in the highest risk category. The prospects of a successful procedure would have been higher three days earlier where there would have been less volume of clot.

25. The CPU considered that, given Mr V's death occurred as a recognised complication of treatment, it is not possible to say that earlier treatment would have definitely prevented the outcome. What could be said however was that earlier treatment would have lowered the risk of the complication that resulted in Mr V's death.

Adequacy of assessment, examination and investigations conducted on 5 October 2020

26. The CPU noted that Bell's Palsy and stroke can be difficult to differentiate clinically if the stroke is limited to the face. Despite documenting signs and symptoms which indicated the possibility of an acute stroke, neither the triage nurse nor the ED registrar thought Mr V's presentation on 5 October 2020 warranted a 'code stroke'. The ED registrar did think stroke was one of Mr V's potential diagnoses as indicated by the request made on the CT brain request: *?CVA/Bell's Palsy*.

27. Unfortunately, the type of CT brain ordered was inadequate to answer the question posed. Despite a policy stating that the Medical Imaging Technician should discuss requests that seem inappropriate with the referring doctor, this did not occur in Mr V's case and the inadequate test was performed.

28. Mr V was then reviewed by the ED consultant who again documented signs and symptoms indicating the possibility of a stroke, noted the normal plain CT brain and diagnosed Bell's Palsy.

29. Professor Schienkestel said that investigations identified the following two issues/root causes:

At the time of Mr V's initial presentation to the Emergency Department there was an incorrect diagnosis of Bell's Palsy and a missed diagnosis of stroke and therefore a missed opportunity to activate a code stroke which would have resulted in the patient undergoing neurology review and diagnostic imaging being performed. The clinical reasoning and

[11] The amount of blood-clot blocking the artery in the brain.

rationale which resulted in the misdiagnosis was not ascertained as part of the investigation but it was determined that Mr V's history and clinical examination findings were not consistent with a typical Bell's Palsy presentation and that the misinterpretation of the available clinical information appeared to have been the result of cognitive errors (such as premature closure and confirmation bias).

The second issue identified was that there was no evidence of any communication between the Diagnostic Imaging department and the Emergency Department despite the Diagnostic Imaging department at Monash Health having implemented a process whereby a senior medical imaging technician (MIT) must contact the referring doctor to confirm that a code stroke is not applicable when TIA/CVA/stroke are documented on the radiology request form. It was therefore considered that deficiencies in communication systems were limiting the ability for communication between the Diagnostic Imaging department and referring units, and that this had contributed to a non-contrast CT brain being performed instead of a CT perfusion scan which would have been the correct imaging to rule out acute stroke.

Communication with Mr V's family at the time of his initial discharge

30. The CPU noted that Mr V presented during a COVID-19 lockdown where every Melbourne emergency department limited the visitors to minimise the chances of infection to both staff and the public. This unfortunately meant that family were not present when the diagnosis and management plan was discussed with Mr V in order to ask questions or seek clarification.

31. Additionally, the CPU noted that the electronic medical record where doctors write their discharge letter is automatically and electronically sent to general practitioners in order to improve the timely and reliable transfer of information, meaning that the previous practice of printing a letter to give to the patient to pass on to the GP had disappeared.

32. The CPU noted that the Monash Health review acknowledged that these concerns are valid, and while they cannot alter the COVID-19 related restrictions, they have now added the printing out of discharge summaries for patients to take with them.

Communication with Mr V's family about symptoms following discharge

33. The CPU noted that the family attempted to contact Monash ED in the days following Mr V's discharge with concerns about symptoms which now included arm weakness. The details of these conversations are not included in the medical record so it remains unclear who

was spoken to. The advice given was based on the presumed diagnosis of Bell's Palsy and that Mr V should follow up with his GP.

34. The CPU noted that the Monash Health review acknowledged that that their processes to respond to the concerns of discharged patients could be improved and have introduced changes to facilitate this.

FINDINGS

35. Pursuant to section 67(1) of the Act I make the following findings:

    a) the identity of the deceased was Mr V, born [redacted]1947;

    b) the death occurred on 09 September 2020 at Monash Health, Monash Medical Centre, 246 Clayton Road, Clayton, Victoria, 3168, from *combined effects of cerebrovascular accident and subsequent iatrogenic related intracerebral haemorrhage and subarachnoid haemmorhage*; and

    c) the death occurred in the circumstances described above.

36. I convey my sincere condolences to Mr V's family for their loss and I acknowledge the sudden and traumatic circumstances in which his death occurred.

COMMENTS

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

    a) The Monash Health review determined that cognitive bias was a root cause of the adverse event in Mr V's case. A focus on human error (cognitive bias) and how to prevent it can distract from identifying the system contributors to that error (especially if local rationality is not sought, as it was not in this case) and the more important aim of what changes can be made to systems and processes to decrease the chances of patient harm.

    b) The Monash review in this case did identify and address some potential systems contributors to error; specifically, education about the clinical presentation of Bell's Palsy versus stroke and the need for specific scans for suspected strokes. While this is reasonable and appropriate, it does not consider the limitations of education (~50% of emergency department medical staff change over every 3 – 6 months and do not

partake in registrar training). This highlights why having systems which can catch predictable errors is important in preventing patient harm.

RECOMMENDATIONS

38. Pursuant to section 72(2) of the Act, I make the following recommendations:

    a) That Monash Health consider whether their process of ensuring patients receive the right imaging scan can be made more reliable by:

        i. minimizing work conditions that increase the chances of error – such as addressing access block so that rapid assessments in the waiting room are not necessary; and

        ii. maximising work conditions which prevent predictable errors from reaching the patient and becoming patient harm – such as by requiring imaging requests to be vetted and approved by the radiology registrar rather than the Medical Imaging Technician (**MIT**), as the registrar has both a greater understanding of the clinical question being asked in the request and greater authority in discussions with medical staff than an MIT.

FURTHER ORDERS

39. In accordance with section 73(1B) of the Act, I order that this finding be published (in redacted form) on the Coroners Court of Victoria website in accordance with the Rules.

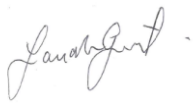
40. I direct that a copy of this finding be provided to the following:

    a) Mrs V, Senior Next of Kin

    b) Monash Health, c/- Ms Abby Neylon, Meridian Lawyers

    c) Constable Andreas Schatz, Coroner's Investigator

Signature:



Coroner Sarah Gebert

Date : 24 May 2023

NOTE: Under section 83 of the ***Coroners Act 2008*** ('the Act'), a person with sufficient interest in an investigation may appeal to the Trial Division of the Supreme Court against the findings of a coroner in respect of a death after an investigation. An appeal must be made within 6 months after the day on which the determination is made, unless the Supreme Court grants leave to appeal out of time under section 86 of the Act.