Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

A Decision by the Aged Care Commissioner

(Case 20HDC02183)

Introduction

1. This report is the opinion of Carolyn Cooper, Aged Care Commissioner.

2. The report discusses the care provided to Mrs B (aged in her eighties at the time of these events) by Dr A at a medical centre.

3. On 18 November 2020, Mrs B presented to Dr A feeling unwell. Dr A diagnosed a possible viral infection and/or reflux. On 19 November 2020, Mrs B presented to the Emergency Department (ED) of a public hospital. An ECG[1] and blood tests identified that Mrs B had suffered an ST-elevation myocardial infarction (STEMI) — a heart attack caused by complete blockage of a coronary artery.

4. Mrs B's daughter, Ms C, raised concerns about the care provided to her mother.

5. The following issue was identified for investigation:

- *Whether Dr A provided Mrs B with an appropriate standard of care on 18 November 2020.*

[1] Electrocardiogram (a test of the electrical signals in the heart to detect heart problems).

Names have been removed (except the advisor) to protect privacy. Identifying letters are assigned in alphabetical order and bear no relationship to the person's actual name.

Background

6. At the time of these events, Mrs B was living at a care home in a serviced apartment that had an assisted living package.[2] The assisted living package did not have a care component[3] attached to it, and Mrs B was independent with her activities of daily living.

Presentation to doctor

7. In the early afternoon of 18 November 2020, Ms C notified staff that her mother 'did not sleep well' the night before, was 'not feeling well' and was 'feeling tired', that she might have indigestion, and that she had experienced chest pain throughout the night and into the morning. Ms C made a doctor's appointment for Mrs B later that day.

8. Mrs B attended the medical centre at 4.15pm on 18 November 2020, together with Ms C and her other daughter. Mrs B was seen by Dr A.

9. Mrs B advised Dr A that she had had chest pain the previous night and thought it might have been due to indigestion as she had also been burping. Mrs B reported that the pain had since 'eased off' but that she still had a feeling like her 'bra [was] too tight'. Mrs B also told Dr A that she had been feeling 'more tired than usual and [a] bit dizzy', and that although she had tolerated breakfast, over the day she had experienced increasing nausea and had also started vomiting. In response to the provisional report, Ms C told HDC that they felt this was a serious situation that warranted clinical investigation.

10. Dr A told HDC that she felt that Mrs B's symptoms suggested viral gastroenteritis as a possible differential diagnosis, and she asked Mrs B about other gastrointestinal symptoms. Dr A noted that Mrs B reported having had a normal bowel movement the previous day, no respiratory symptoms (such as a sore throat or runny nose) but did report feeling 'hot and cold'.

11. Dr A undertook a physical examination of Mrs B, including abdominal palpation (Mrs B had generalised tenderness), auscultation (no murmurs or irregular heart rhythm), and taking Mrs B's temperature (37.3°C), blood pressure (135/97mmHg), pulse (147bpm[4]), oxygen saturation (98% on room air), and capillary refill (2 second refill on fingertips).

12. No further examinations were carried out, and Dr A noted that Mrs B's presentation appeared to be 'more GI [gastrointestinal] than cardiac'. Dr A told HDC that as Mrs B's pain had passed and there seemed to be another reasonable explanation for the pain, she did not consider it necessary to perform an ECG at that time. Dr A diagnosed a possible viral infection or gastritis, and prescribed Mrs B anti-nausea medication and medication to relieve indigestion. In response to the provisional report, Ms C said that they had asked 'repeatedly' if there were any additional tests such as an ECG that should be carried out as

[2] According to the care home, assisted-living packages include services such as housekeeping, gardening and ground maintenance, scheduled outings, and a chef-prepared meal every day.
[3] A care component refers to any health care provided, which could include, for example, caregiver visits for safety checks, medication support, or nursing checks for blood pressure.
[4] Heart 'beats per minute'.

they were concerned about cardiac issues. Ms C said that Dr A advised that 'they were not tests that she could carry out at the medical centre because that equipment was only available at the hospital'. Dr A had previously told HDC that the clinic did have an ECG machine, but that the clinic did not have facilities for conducting blood tests and therefore patients were referred to ED or to a laboratory for these sorts of tests.

13. In her notes, Dr A documented: 'Advised I can't rule out cardiac chest pain here and if pain returns, she should present to ED immediately …' Dr A told HDC that she also suggested that Mrs B not be left alone and noted that Ms C would be staying with her overnight at the care home.

14. In response to the provisional opinion, Ms C said she told Dr A that Mrs B was 'so unwell and exhausted that she was barely able to speak'. Ms C stated that while on the examination table, Mrs B became 'unconscious' and had to be roused when it was time to leave. In relation to this concern, Dr A had previously told HDC:

> 'Had loss of consciousness been observed or brought to my attention I would have documented this in the notes. Depending on the clinical circumstances it is my usual practice to escalate care when a patient has lost consciousness, this would often include calling an ambulance.'

15. At 9.11pm on 19 November 2020, staff at the care home became concerned about Mrs B and called an ambulance. The ambulance record noted a primary clinical impression of a STEMI heart attack and stated: '[Mrs B] looks tired and flushed but does not appear to have typical symptoms to indicate cardiovascular compromise.' The ambulance arrived at the ED at 10.07pm.

Te Whatu Ora

16. Clinical notes from the ED record:

> '[Mrs B has] ongoing lethargy, nausea and sob[5] after episode of chest pain yesterday morning … Wednesday morning had episode of severe chest pain, associated sob, nausea and extreme fatigue … [A]ttended gp who [diagnosed] heartburn and viral illness.'

17. Investigations undertaken in ED, including an ECG and bloods, indicated that Mrs B had experienced a STEMI approximately 36 hours earlier. Mrs B was admitted to the Coronary Care Unit (CCU).

18. On 9 December 2020, Mrs B was discharged to rest-home level care at the care home. Sadly, Mrs B passed away during the course of this investigation, and I offer my condolences to Ms C and her family.

[5] Shortness of breath.

Further information

19. Dr A told HDC that she accepts that not performing an ECG when she saw Mrs B on 18 November 2020 was an error in judgement, and that she deeply regrets this failure in her care. Dr A stated: 'An ECG should be done in any case where someone has had chest pain recently, whether their symptoms point to another more likely cause or not.'

20. Dr A said that since the event she has undertaken extensive self-directed learning on acute care situations, in particular in the area of acute coronary syndrome and older women.

21. Dr A also presented this case to her colleagues, and other doctors at the presentation shared cases that were similar. She noted that following the discussion, it was agreed that when managing a case where a cardiac cause could not be ruled out clinically, an ECG and troponin blood tests would be required.

22. Dr A stated that now in her practice, if patients present with a recent history of chest pain, then the nurses will check with the doctors whether they would like an ECG to be performed prior to the patient's consultation.

Response to provisional opinion

23. Ms C was given the opportunity to respond to the 'information gathered' section of the provisional opinion and her comments have been incorporated into this report where relevant.

24. Ms C told HDC:

> '[Since the event] my sister and I have both suffered mental and emotional anguish from the knowledge that more could have been done for our mother. Even after 2.5 years there is not a day goes by that we don't remember the events of that day and the disregard that [Dr A] displayed towards our mother. We will live with this for the rest of our lives.'

25. Dr A was given the opportunity to respond to the provisional opinion, including the proposed findings and recommendations. Dr A had no further comment.

Opinion: Dr A — breach

26. First, I acknowledge the distress that this event has caused Ms C and her family. I have undertaken a thorough assessment of the information gathered in light of the concerns raised. To determine whether the care provided by Dr A was reasonable, I have considered the clinical advice of general practitioner (GP) Dr David Maplesden (Appendix A).

27. Dr Maplesden acknowledged that Mrs B had 'some "atypical" features of the presentation which could have obscured the diagnosis (prominence of nausea/vomiting as a symptom in conjunction with finding of epigastric tenderness on palpation)'. He also noted the extensive safety-netting advice provided, in that Dr A advised: 'I can't rule out cardiac chest pain here and if pain returns [Mrs B] should present to ED immediately.'

28. However, Dr Maplesden said that older women are known to present more frequently with 'atypical' presentations of acute coronary syndrome (ACS)[6] than the general population. Dr Maplesden advised:

> 'I believe the history of recent (within hours) significant chest pain followed by chest tightness, nausea and fatigue was as suggestive of ACS as gastroenteritis and **the most important diagnosis to exclude was ACS**.' (Emphasis added.)

29. I agree with Dr Maplesden's advice that in order to exclude ACS, an ECG would have had to be performed, and ACS could not be excluded based only on the history and physical assessment of Mrs B. Dr Maplesden noted:

> 'If the ECG was unremarkable, and history not convincing for ACS, urgent outpatient serum troponin[7] measurement … might be appropriate although in [Mrs B's] case I believe many of my colleagues would have arranged hospital admission on the basis of the history even with a normal ECG … given [Mrs B's] age and tachycardia.'

30. Dr Maplesden stated that while Dr A did acknowledge that she could not rule out cardiac chest pain as a diagnosis, she did not take appropriate steps to attempt to rule this out, and this would be met with moderate disapproval by his peers.

31. I accept Dr Maplesden's advice and note Dr A's acknowledgement that not performing an ECG was an error in judgement. Accordingly, I am critical that Dr A did not perform an ECG to investigate a possible cardiac cause for Mrs B's chest pain and did not recommend follow-up blood testing and/or hospital care. This resulted in a delay in Mrs B receiving the treatment she required. For this reason, I find that Dr A failed to provide Mrs B with an appropriate standard of care, in breach of Right (4)1 of the Code of Health and Disability Services Consumers' Rights.

Recommendations

32. Mrs B's family told HDC that they do not wish to receive an apology from Dr A. Therefore, taking into account the steps Dr A has taken and the changes she has made since the time of events, I am satisfied that no further recommendations are required.

Follow-up actions

33. A copy of this report with details identifying the parties removed, except the name of my in-house clinical advisor, will be sent to Te Tāhū Hauora|Health Quality & Safety Commission and the Medical Council of New Zealand, and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

[6] Acute coronary syndrome (ACS) is an umbrella term for situations in which blood supply to the heart is blocked.
[7] Troponin is a protein found in the muscles of the heart, not usually in the bloodstream. If a blood test shows troponin, this indicates heart muscle damage.

Appendix A: In-house clinical advice to Commissioner

The following advice was obtained from GP Dr David Maplesden:

'1. Thank you for the request that I provide clinical advice in relation to the complaint from [Ms C] about the care provided to her mother, [Mrs B], by [Dr A]. In preparing the advice on this case to the best of my knowledge I have no personal or professional conflict of interest. I agree to follow the Commissioner's Guidelines for Independent Advisors. I have reviewed the following information:

Complaint from [Ms C]

Response from [Dr A]

GP notes [medical centre]

Clinical notes [public hospital]

Response and notes [care home]

2. [Ms C] complains about delays in the diagnosis of her mother's myocardial infarction (MI — heart attack). She states she visited [Mrs B] on the morning of 18 November 2020 and found her to be unwell with chest tightness and nausea and complaint of having had chest pain during the night. She arranged review by [Dr A] which took place on the afternoon of 18 November 2020 by which stage [Mrs B] was vomiting. [Dr A] diagnosed gastroenteritis and prescribed anti-nausea medication and an antacid. [Ms C] stayed with [Mrs B] over the next 24 hours noting her to be sleeping most of the time and very tired. On the afternoon of 19 November 2020 a family friend expressed concern at [Mrs B's] overall condition and suggested she go to hospital. A non-urgent ambulance was arranged by staff of the care home where [Mrs B] resided. On arrival of the paramedics later that evening an ECG was performed and showed [Mrs B] had had an MI. She was transported urgently to [the public hospital] and received medical treatment for delayed MI presentation. She suffered another MI while there and has significant heart damage. [Ms C] is concerned that [Dr A] did not consider a cardiac cause for [Mrs B's] symptoms and investigate her accordingly.

3. Clinical notes state [Mrs B] ([DOB]) had a past medical history of bowel cancer (1997 — stoma in situ), breast cancer (left mastectomy August 2020), osteoporosis, hypothyroidism, chronic back pain and monoclonal gammopathy of uncertain significance (MGUS). She lived independently in a serviced unit at [the care home]. GP notes dated 18 November 2020 give a history of: Reports she had been good since last seen, then yesterday a bit off, more tired than usual and bit dizzy. Then when she went to bed she had central lower chest pain. Didn't sleep but it eased off and today just a feeling like bra being too tight. Had breakfast ok though feeling tired and not well. Then increasing nausea and vomiting during the day and stomach feels upset. Bowels were normal and respiratory symptoms denied. Assessment findings included: BP 135/97, P 147 (no comment on rhythm), T 37.3, O_2 sats 98%, normal heart and lung auscultation, abdo soft, general tenderness, very tender epigastric area and mildly over ribs. Impression and management were documented as: Imp: ?viral infection, ?gastritis as

cause for pain. Advised I can't rule out cardiac chest pain here and if pain returns she should present to ED immediately, current pattern more GI than cardiac. Plan: antiemetic and acidex and see if these help [metoclopramide and Acidex prescribed], needs fluids +++, [daughter] to stay with her tonight, encourage fluids and give these meds, if any symptoms any worse then to go to ED, advised watch for dehydration, confusion, drowsiness, vomiting, fever.

4. As noted in the complaint, [Mrs B] remained unwell and at 1945hrs on 19 November 2020 a [care home] staff member took observations after family expressed concern at [Mrs B's] ongoing unwellness (most prominently anorexia and profound fatigue). Observations were BP 123/79, P 101, T 37.9, resps 26, O_2 sats 97%. Ambulance transfer to [the public hospital] was arranged with the paramedics attending around 2130hrs on 19 November 2020. Recent history was noted with no current complaint of chest pain or breathing symptoms but ongoing mild nausea and generalised weakness and fatigue. Notes include: Pt looks tired and flushed but does not appear to have typical symptoms to indicate cardiovascular compromise. Observations were BP 101/57, P 105 (SR), T 37.6, resps 26, O_2 sats 96%. ECG was performed and showed changes consistent with an ST elevation anterior MI and [Mrs B] was transported to [the public hospital].

5. [ED] notes 2230hrs 19 November 2020 include: pc: / ongoing lethargy, nausea and sob after episode of chest pain yesterday morning. hpc: / wednesday morning had episode of severe central chest pain. associated sob, nausea and extreme fatigue. / attended gp who dx heartburn and viral illness. / has had no further chest pain but ongoing nausea, lethargy and sob. Examination and ECG findings documented with impression: stemi > 36hrs ago. Given the delayed presentation it was felt acute angiography and stenting was not indicated (required transfer to [another] Hospital) and [Mrs B] was transferred to a medical ward. Medical admission notes include the history: On Tuesday night/Wednesday morning at midnight central chest pain/pressure woke her from sleep. Had belching++, vomited x2. Pain did not radiate anywhere. This pain resolved by late morning Wednesday, no pain since. Saw GP Wednesday and diagnosed with reflux and viral infection. Evening of presentation daughter's friend raised concern that something more serious could be going on so brought Mum down. No associated SOB/dizziness/palpitations. Feels exhausted but otherwise okay. No cough. Has felt hot and cold on and off last day or so. ECG showed: Sinus tachy rate 105. Q waves throughout anterior leads. ST elevation V2–6, max 3mm V3 and 4. Rpt ECG similar and hs troponin T levels were elevated at 2512 ng/L (reference range <15). [Mrs B] was managed medically (treatment also provided for suspected pneumonia and acute atrial fibrillation) and echocardiogram showed impaired left ventricular function.

6. [Mrs B] had a history of acute onset chest pain the evening prior to her presentation to [Dr A] with ongoing feeling of chest tightness (described as "bra too tight") on the day of presentation. There was accompanying nausea and fatigue but no respiratory symptoms. The duration of the chest pain episode is not recorded and [Dr A] states in her response that [Mrs B] was unable to characterize the pain particularly well although it was associated with burping and [Mrs B] thought it may have been indigestion. [Mrs B] also described feeling "hot and cold" and [Dr A] states a mild fever was evident

(although I would regard tympanic temperature of 37.3 as upper limit of normal range for a patient >60 years[1]) and tachycardia observed was attributed to low fluid volume. These findings combined with the observation of epigastric tenderness on palpation and the prominence of nausea and vomiting as a symptom led [Dr A] to consider a diagnosis of gastroenteritis/reflux as most likely and treatment was provided for this diagnosis. Extensive safety netting advice was provided but I note [Dr A's] comment within this advice: Advised I can't rule out cardiac chest pain here … [Dr A] notes in her response: [Mrs B] did mention that she had chest pain the night before the consultation. As the pain had passed and there seemed to be another reasonable explanation for the pain I didn't consider it necessary to perform an ECG at that time … On reflection, I realise that not performing an ECG in this case was an error in judgement. Although some time had passed it may still have been possible to detect changes on this which could have alerted me to a more serious issue and have resulted in immediate admission to hospital. [Dr A] states she will now incorporate an ECG in management of patients with recent chest pain and she has reviewed relevant chest pain guidance.

7. Older women are known to present more frequently with "atypical" presentations of acute coronary syndrome (ACS) than the general population. A review article[2] on this topic noted: Key findings for differences in acute ACS symptoms for women based on age included the following: (a) typical chest pain and pain of any kind were less likely in older women (≥65 years); (b) women were more likely to have non-pain symptoms of nausea, dyspnoea, and fatigue after adjustment for age … The most common prodromal symptoms in women after adjustment for age included unusual fatigue, discomfort in arms, sleep disturbance, anxiety, general chest discomfort, discomfort in jaws/teeth, and shortness of breath. Although chest symptoms were reported by some women, they were not reported by most women. Conclusion: Women older than 65 years with ACS experienced fewer symptoms, more ambiguous symptoms, less chest pain, and more dyspnea. Women older than 50 years were more likely to report prodromal symptoms that include sleep disturbance. Many symptom differences that were statistically significant by age, such as chest pain and shortness of breath, may not be clinically relevant.

8. Comments

(i) [Mrs B's] major apparent risk factor for ischaemic heart disease (IHD) was her advanced age. There was no past history of IHD or record of additional risk factors such as smoking history, hypertension, diabetes or hyperlipidaemia. However, she did give a history of central chest pain (duration unclear but at least several hours based on [the public hospital] notes) followed by ongoing chest pressure or tightness preceding the presentation to [Dr A]. The presence of a significant tachycardia could indicate a degree of cardiovascular compromise although blood pressure was maintained and there was no apparent dyspnoea or abnormal findings on lung auscultation. Had there not been a convincing history of preceding chest pain, I believe [Mrs B's] presentation was

[1] Geneva I et al. Normal Body Temperature: A Systematic Review. Open Forum Infect Dis. 2019; 6(4).
[2] DeVon HA, Pettey CM, Vuckovic KM at al. A Review of the Literature on Cardiac Symptoms in Older and Younger Women. J Obstet Gynecol Neonatal Nurs. 2016;45(3):426–37.

sufficiently "atypical" for ACS, and suggestive of an upper GI disturbance (reflux/gastroenteritis), that the diagnosis of ACS could be readily missed. However an astute clinician (taking account of the discussion in section 7 on atypical presentations of ACS) might still have ordered an ECG.

(ii) In [Mrs B's] case, I believe the history of recent (within hours) significant chest pain followed by chest tightness, nausea and fatigue was as suggestive of ACS as gastroenteritis and the most important diagnosis to exclude was ACS. This diagnosis cannot be excluded on history and physical assessment alone and I believe accepted practice in the clinical scenario described would be to perform an ECG as part of the assessment process. If the ECG was unremarkable, and history not convincing for ACS, urgent outpatient serum troponin measurement (or point-of-care measurement if available) might be appropriate although in [Mrs B's] case I believe many of my colleagues would have arranged hospital admission on the basis of the history even with a normal ECG (in case of non-STEMI diagnosis) given [Mrs B's] age and tachycardia. An aggravating factor in this case is that by her own admission (as recorded in the safety netting advice), [Dr A] did acknowledge that she could not rule out cardiac chest pain as a diagnosis, yet she did not take appropriate steps to attempt to rule this out.

(iii) I believe [Dr A's] management of [Mrs B] on 19 November 2020 would be met with moderate disapproval by my peers taking into account the documented history of recent central chest pain, significant tachycardia and the fact cardiac chest pain was considered in the differential diagnosis but appropriate steps not taken to exclude it. Mitigating factors include what might be regarded as some "atypical" features of the presentation which could have obscured the diagnosis (prominence of nausea/ vomiting as a symptom in conjunction with finding of epigastric tenderness on palpation), and the comprehensive safety-netting advice provided. [Dr A] has apologised for her oversight and I believe the self-education approach she has taken is an appropriate remedial measure. She might also consider presenting [Mrs B's] case (anonymised) to her peers, emphasising the presentation pattern of older women with ACS, to promote a low threshold of suspicion for ACS and earlier diagnosis of the condition in this population.'