## REGULATION 28: REPORT TO PREVENT FUTURE DEATHS

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| **REGULATION 28 REPORT TO PREVENT FUTURE DEATHS**<br><br>THIS REPORT IS BEING SENT TO:<br><br>1. The Royal College of Emergency Medicine<br>2. The Royal College of Radiologists<br>3. NHS England | |
| **1.** | **CORONER**<br><br>I am Samantha Goward, Assistant Coroner for the coroner area of Cambridgeshire and Peterborough. |
| **2.** | **CORONER'S LEGAL POWERS**<br><br>I make this report under paragraph 7, Schedule 5, of the Coroners and Justice Act 2009 and Regulations 28 and 29 of the Coroners (Investigations) Regulations 2013.<br>Coroners and Justice Act 2009 (legislation.gov.uk)<br>The Coroners (Investigations) Regulations 2013 (legislation.gov.uk) |
| **3.** | **INVESTIGATION and INQUEST**<br><br>On 14 January 2021 an investigation into the death of Chantelle Reed was commenced. Chantelle died on 29 October 2020. The investigation concluded at the end of the inquest on 6 September 2023. The conclusion of the inquest was:<br><br>**Medical Cause of Death:**<br><br>1a. Haemopericardium<br><br>1b. Type A aortic dissection<br><br>**Conclusion** – Natural causes, namely an undiagnosed acute aortic dissection, a rare condition, even more so in light of Chantelle's age and lack of relevant medical history. |
| **4.** | **CIRCUMSTANCES OF THE DEATH** |

**1.** Chantelle Reed was a 33 year old lady who had no history of any significant medial conditions.

**2.** On 27 October 2020 Chantelle began to experience back and neck pain and feeling of breathlessness. She described the pain as worse than contractions. The pain was sufficient that she felt unable to drive and she was driven to the Emergency Department at Peterborough City Hospital.

**3.** On arrival Chantelle described having throat spasms/back pain. When she was seen by a doctor she advised that her symptoms had resolved and indicated a desire to leave as she did not wish to waste the department's time. At that time she did not advise of any chest pain or breathlessness. Chantelle also advised she had experienced similar back spasms before following an epidural.

**4.** The doctor did however complete a physical assessment and arrange for blood tests to be performed. Based on the findings at that time, a working diagnosis of musculoskeletal pain was made and Chantelle was discharged with a prescription for diazepam.

**5.** Chantelle did not have any medical history that would cause concern for this condition. Given her age and presentation, I heard expert evidence that "*acute thoracic aortic dissection in these circumstances in a young woman to be highly unusual making it so rare that it would not be considered a differential diagnosis without strong clinical evidence*".

**6.** While the expert gave evidence that on 27 October, the abrupt onset of central chest pain radiating to back and throat was consistent with a dissection, he stated that Chantelle had a normal ECG, completely normal physical observation, no abnormality on examination and normal blood tests. He therefore stated this would reassure a responsible emergency physician and it was therefore reasonable, without the benefit of hindsight, to discharge her at that time.

**7.** Overnight on 28 October Chantelle became breathless and developed chest pain and in the early hours of 29 October, after a 111 call, an ambulance was called and Chantelle was taken again to hospital arriving at around 0450 hours. She was complaining of sudden onset chest pain, which was worse on inspiration, vomiting and fever.

**8.** There was a delay in Chantelle seeing a doctor after she was triaged, but the length of the delay was not one outside the realm of the usual wait nationwide, particularly in the context of the covid pandemic.

**9.** Various tests were carried out following assessment and she was managed for suspected pulmonary embolism (PE). A chest x-ray was performed and reviewed by the ED clinician and no concerns were noted. A CT pulmonary

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| | Angiogram (CTPA) and echocardiogram were requested, but this was later overruled by a Medical Consultant. We heard evidence from that Consultant who felt that Chantelle did not have a PE and likely had an infection and provided antibiotics and indicated she was fit for discharge. Chantelle was moved to the ambulatory majors area of ED when she was noted to be unconscious by another patient who alerted staff. She was rushed to the resuscitation room, but sadly did not survive.<br><br>**10.** I heard expert evidence that when Chantelle represented to the ED on 29 October, based upon what was known at that time, and Chantelle's presentation, the suspicion of a PE was reasonable, as was starting treatment for this with anticoagulants in accordance with national guidance, while awaiting the scan results. However, his evidence was that it was not appropriate to decide not to carry out the further investigations requested by the ED Registrar. The expert's evidence was that Chantelle's presentation did not fit fully fit with infection, although this should have remained as a differential diagnosis. She should therefore have been admitted and given the antibiotics as an inpatient, where she could be monitored due to the ongoing tachycardia and the raised troponin t, so that the nature of any infection could be established to ensure she was on the correct antibiotics, and also the investigations to confirm or rule out a PE could be undertaken.<br><br>**11.** I am mindful that the investigations ordered were not to consider aortic dissection, and the expert was not critical of this, but that the CTPA if undertaken could have shown the dissection as an incidental finding and this was also agreed by an expert Cardio Thoracic Surgeon.<br><br>**12.** Further, the chest x-ray undertaken on 29 October was subsequently reported as abnormal. The ED expert was not critical of the fact that the ED clinicians did not correctly interpret this and advised that the subtle signs may have been missed by them, especially as it is only with the benefit of hindsight that signs of a dissection would be specifically considered. They were however spotted by the reporting Radiologist, but sadly they did not review and report until after Chantelle's death and the evidence was that this is nationally not an unusual timescale for such a report. Had the chest x-ray been reported by a Radiologist sooner, the diagnosis would have been made sooner. |
| **5.** | **CORONER'S CONCERNS**<br><br>During the course of the inquest the evidence revealed matters giving rise to concern. In my opinion there is a risk that future deaths could occur unless action is taken. In the circumstances it is my statutory duty to report to you. |

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| | **The MATTERS OF CONCERN ARE:**<br><br>**1.** The evidence of the independent expert in Emergency Medicine, was that *"the feature of central chest pain that radiates to the throat and jaw stands out as important and deserving attention in guidance to raise the profile of acute aortic dissection. Emergency physicians know that chest pain radiating to the neck and jaw may indicate acute coronary syndrome, but rarely appreciate this also raises the prospect of acute aortic pain. The latter is known amongst cardiologists and cardiac surgeons but it not widely known in acute medicine. I consider there is scope for those responsible for compiling guidelines to consider including this symptom to raise the profile of possible aortic dissection further".* The expert felt that this would assist in cases such as Chantelle's where the presentation did not have many of the usual 'red flag' symptoms.<br><br>**2.** The evidence also indicated that the timescale for a Radiologist to review the chest x-ray (2 days) was not unusual and that often the timescale is longer and this is due to a national shortage of Radiologists. The concern is that, to a trained Radiologist, the possibility of an aortic dissection was immediately recognised, but the review did not take place until after Chantelle had died. In an emergency situation such as this one, this delay represents on ongoing risk of future deaths. |
| **6.** | **ACTION SHOULD BE TAKEN**<br><br>In my opinion action should be taken to prevent future deaths and I believe you have the power to take such action. |
| **7.** | **YOUR RESPONSE**<br><br>You are under a duty to respond to this report within 56 days of the date of this report, namely by 16 November 2023. I, the Coroner, may extend the period.<br><br>Your response must contain details of action taken or proposed to be taken, setting out the timetable for action. Otherwise, you must explain why no action is proposed. |
| **8.** | **COPIES and PUBLICATION** |

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| | I have sent a copy of my report to the Chief Coroner and to the following Interested Persons:<br><br>1. Chantelle's family<br>2. North West Anglia NHS Foundation Trust (Peterborough City Hospital)<br><br>I have also sent it to the following who may find it useful or of interest.<br><br>3. Secretary of State for Health<br>4. HSIB<br>5. Aortic Dissection Awareness UK & Ireland<br>6. Heart Research UK ('think aorta' campaign)<br><br>I am also under a duty to send a copy of your response to the Chief Coroner and all interested persons who in my opinion should receive it.<br><br>I may also send a copy of your response to any other person who I believe may find it useful or of interest.<br><br>The Chief Coroner may publish either or both in a complete or redacted or summary form. He may send a copy of this report to any person who he believes may find it useful or of interest.<br><br>You may make representations to me, the coroner, at the time of your response, about the release or the publication of your response. |

Dated 21/09/2023

Signed:

**Samantha GOWARD, Assistant Coroner for Cambridgeshire and Peterborough**