

## *When Human Error Causes the Death of Not-for-Resuscitation Patients*

### *Inquest into the death of Maria Dolores Coleiro*

#### Key Points

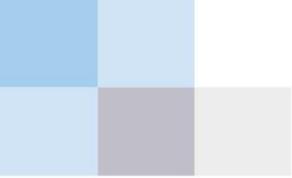
- It is important to maintain good communication with a patient's family about end of life care.
- It is important to caveat Not for Resuscitation (**NFR**) orders properly, in particular, what is to be done in case of an intervening iatrogenic event (that is, an additional problem or complication caused by medical staff).

#### Background

Maria Dolores Coleiro died on 22 September 2011 at Western Hospital in Victoria (**the hospital**). She was 69 years old and had a significant medical history, including a stroke she suffered in 2010. The stroke left her with dense left hemiparesis (paralysis of the left side of the body). On 16 September 2011, Ms Coleiro underwent a biopsy and debridement of a malignant otitis externa (an aggressive infection of the bones of the ear canal and base of the skull) at the hospital. The biopsy confirmed that Ms Coleiro had an infection and she was prescribed antibiotics. She was also diagnosed with aspiration pneumonia and resultantly a nasogastric tube (**NGT**) was inserted to assist with feeding and the administration of medications. Ms Coleiro's family were informed that Ms Coleiro had a high mortality rate against the background of a significant infection, risk of continued aspiration and pneumonia, pre-existing dense hemiparesis, and poor cardiac function. In light of these conditions, a medical decision was made to not administer cardiopulmonary resuscitation (**CPR**) to Ms Coleiro should her condition deteriorate. A NFR order was subsequently drawn up. On 22 September 2011, Ms Coleiro was administered ciprofloxacin (an antibiotic) via her PICC line (an intravenous catheter) instead of her NGT. Shortly thereafter, Ms Coleiro started breathing abnormally and then became unresponsive. Due to the NFR order, CPR was not administered and Ms Coleiro was pronounced deceased.

#### Conclusion

The coroner found that Ms Coleiro's death was caused by the inadvertent intravenous administration of oral ciprofloxacin in the setting of a significant medical history. Contributing factors to Ms Coleiro's death were cerebrovascular disease, diabetes mellitus, and coronary artery atherosclerosis.



However, the primary focus of the inquest was the circumstances in which Ms Coleiro died. That is, the incorrect administration of ciprofloxacin intravenously, the NFR order, and the status of the NFR order in case of an iatrogenic event.

### **Incorrect administration of ciprofloxacin intravenously**

The ciprofloxacin was administered to Ms Coleiro by RN Gail Reynolds, who had no previous experience with PICC lines. Two other RNs supervised RN Reynolds in the task. Since Ms Coleiro's death, various measures were implemented to avoid these incidents in the future, including that nurses who are not trained in PICC lines are not to care for patients with a PICC and are not to access PICC lines to administer medication or fluid, or to take blood. Instead, nursing staff will be required to undertake PICC line education.

### **The NFR order**

The purpose of an NFR order is to identify patients with advanced illnesses who would not benefit from life-saving therapies when those therapies would only cause the patients further pain and suffering. It is very important that the decision to impose an NFR order is discussed with the patient's family. The patient's family must be fully informed about the reasons for the NFR order and agree to its imposition. Further, the NFR order must set out the care that is to be provided and the care that is restricted should a patient's condition deteriorate. In Ms Coleiro's case, she would have deteriorated further from aggressive CPR. The discussion with Ms Coleiro's family about the medical decision to impose the NFR was documented. What was unclear was whether her family understood the full implications of an NFR order. Nevertheless, it was found that each family member would have a different level of understanding and that Ms Coleiro's family was informed of the NFR order in clear language.

### **The status of the NFR order in case of an iatrogenic event**

When it is known that an iatrogenic event has just occurred, medical staff should immediately assess the nature of the iatrogenic event and whether it can be treated. If the patient's decline is due to a reversible iatrogenic event, then an NFR order does not apply. In the present case, it was not disputed that intravenous administration of ciprofloxacin was an irreversible iatrogenic event. Further, the nursing staff did not realise that the iatrogenic event was the reason for Ms Coleiro's sudden decline. Therefore, the NFR order remained valid.

On the basis of the above reasoning, the coroner made the following findings in relation to the circumstances of Ms Coleiro's death:

- Medical staff adequately discussed with Ms Coleiro's family the reason for their decision to impose an NFR order;
- Ms Coleiro's multiple co-morbidities and clinical condition was ample reason to impose the NFR order;

- Intravenous administration of oral ciprofloxacin was an irreversible iatrogenic event and CPR would not have changed the fatal outcome for Ms Coleiro;
- Despite its catastrophic consequences, the intravenous administration of oral ciprofloxacin was a simple human error;
- Nursing staff did not recognise the error immediately and did not attribute Ms Coleiro's decline to the error;
- The decision not to perform CPR was a medical decision made in good faith in compliance with the NFR order;
- If, at the time of Ms Coleiro's decline, it was known that an iatrogenic event had occurred, a medical assessment should have been carried out to determine whether the event could be treated or whether it was irreversible; and
- As a result of this incident, the hospital implemented various remedial measures to avoid a repeat of the same incident and to enhance patient safety.

## Lessons Learnt

The coroner's findings into Ms Coleiro's death emphasise the importance of good communication with a patient's family about end of life care, particularly in circumstances where a medical decision is made to impose an NFR order. It is also important to caveat NFR orders properly. As the present case demonstrated, an NFR order should set out what is to be done in case of an intervening iatrogenic event.

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