Recognition and Management of Clinical Deterioration

Case Study Review

Student Name and Number

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Introduction

A majority of patients who are admitted to the hospital for routine procedures are continually monitored for temperature, heart rate, and respiratory rate to avoid sudden clinical deterioration during a patient's hospital stay. In this scenario, nursing monitoring and interventions are of paramount significance to prevent clinical detrioration. In most hospitals, clinical staff members are well-trained and capable of recognizing signs of deterioration and calling for emergency help at the appropriate time (Vincent *et al*., 2018).

In the case study discussed in this article, the patient Mrs. Sally Brown who underwent a total hip replacement procedure, showed symptoms such as a steady increase in blood pressure, headache, and confusion following the procedure. However, the attending nurse considered them to be a side effect of the procedure and the painkillers, and failed to notify the concerned authorities at the right time. Failure to take the appropriate measures resulted in the patient experiencing an acute ischaemic stroke in the hospital.

This paper throws light on the Clinical Emergency Response System (CERS) and its various levels of care. Following this, the case study is critically analyzed in detail for the recognition, escalation, and management of clinical deterioration of the patient by the registered nurse on duty.

CERS – An Overview

The Clinical Emergency Response System (CERS) is implemented as part of the Clinical Review and Rapid Response to rapidly review and treat clinically deteriorating patients and refer them to specialists when necessary. This is a 24x7 system that clearly defines the roles of every individual in taking care of clinically deteriorating patients. It ensures that the requirements are well understood by all clinical staff and the necessary emergency equipment is made available to them (Clinical Excellence Commission, 2013).

As per the CERS protocol, patient review needs to be done after 30 minutes of admission by an appropriately qualified individual or medical team. During this process, a comprehensive review of the patient is done and all the important observations are noted. Based on this, the frequency of future patient reviews is decided. All patient observations are categorized by

colours where yellow indicates that a patient review by a team leader is mandatory to determine the future course of action, red indicates that patient review by a medical officer within 10 minutes is mandatory, and blue indicates that an urgent patient review by the ALS team is mandatory. Hence, as per the CERS protocol, a yellow zone breach needs to be monitored and categorized into 'not immediately life threatening red zone breach' and 'immediately life threatening red zone breach'. In the former case, a medical officer needs to perform a patient review every 15 minutes, and if this is not done, then Code Blue/ALS indicative of an immediately life threatening situation needs to be activated. Once Code Blue is activated, an appropriately qualified medical officer needs to perform a comprehensive review of the patient and recommend further actions (Clinical Excellence Commission, 2013).

All clinical staff members are given three tiers of training regarding the implementation of the Clinical Emergency Response System (CERS). Tier 1 is Awareness Training where members are trained to recognize key features of clinical deterioration and apply best practices of the Clinical Emergency Response System. Tier 2 is a DETECT or DETECT Junior program which empowers medical staff members to provide basic life support to a clinically deteriorating patient. Individuals who undergo Tier 3 training possess advanced clinical skills and can administer advanced life support to patients (Clinical Excellence Commission, 2013).

Clinical Analysis of Recognition of Clinical Deterioration in Patient – Case Study

As per the case study details, the first indication that the patient, Mrs. Sally Brown, showed signs of clinical deterioration was a slight drop in blood pressure from 121/87 mmHg to 115/80 mmHg and her daughter's concern that her mother was 'not herself over the phone'. When these observations were made, the shift had changed and the new nurse did not consider these observations alarming. Given the patient's age and medical history, the nurse-in-charge should have alerted the concerned authorities and activated the yellow zone breach protocol. The yellow zone indicates that the patient's vital signs have fallen out of the normal range, but they do not yet require an emergency response (Hughes *et al*., 2014). Initiating the CERS protocol at this point could have prevented considerable damage later.

When the nurse came in to check on the patient, 2 hours and 45 minutes had elapsed since the initial observation. This is quite a long time between patient reviews, especially given

her age, medical history, and her daughter's concerns over her mother's health status. Vital signs recorded in the yellow zone of the standard observation chart of the patient account for patient review every 30 minutes (Pain *et al*., 2017). However, in this case, close to 3 hours had lapsed between consecutive patient reviews.

During the second visit, the nurse noted that it took 15 minutes to rouse the patient. The patient was experiencing amnesia and numbness on the right side on which she was lying. These observations, too, did not come across to the nurse as alarming and she explained to the patient that she was experiencing these symptoms due to her painkillers. The patient's inability to comprehend her environment, her reluctance in cooperating with the nurse and her right-side numbness should have triggered the Code Blue/ALS, or atleast the Rapid Response as per the red zone breach protocol (Clinical Excellence Commission, 2013).

The next patient review was performed after 1 hour and 15 minutes. At this time, the patient's blood pressure was quite high at 185/100 mmHg and her heart rate was also high at 125 bpm. The patient was roused using painful stimuli and when the patient was awake, she complained of a 'bad headache'. This triggered the nurse to contact the Resident Medical Officer asking for a phone order for paracetamol and requesting the officer to come for a patient review when possible. The nurse's observations at this stage should have been sufficient for the nurse to call the Code Blue/ALS team for emergency response. Also, the Resident Medical Officer should have recognized the severity of the symptoms and should have arrived for the patient review immediately. However, the officer simply gave a phone order for oral paracetamol and did not come in for patient review.

In the meantime, the nurse continued to take the patient's blood pressure hourly for a total of 3 times, and each time the blood pressure was found to be higher than the previous reading. Not once during this 3-hour period did the nurse find it necessary to enlist the help of a qualified medical professional for continual increase of the patient's blood pressure despite administration of paracetamol. During the nurse's fourth hourly visit, the patient's face was found to be drooping towards the right side, her head slumped forward, and she started making audible respiratory sounds. This is the time that the nurse finally initiates the Rapid Response protocol and the Rapid Response team determines that the patient has suffered from acute ischaemic stroke.

Critical Analysis of Escalation of Clinical Deterioration – Case Study

The first time that the attending nurse decided to bring the patient's condition to the attention of a Resident Medical Officer was when painful stimuli was used to rouse the patient, the patient was complaining of a headache, and when the patient's blood pressure had increased considerably. Even at this time, rather than calling for the Rapid Response team, the nurse asked for a phone order for paracetamol and a patient review 'when possible'. Rather than requesting a prescription, the attending nurse should have communicated the urgency of the patient's situation and requested a patient review immediately.

Prior to this visit, the nurse had checked in 1 hour 15 minutes ago, and the patient was found to experience amnesia, confusion, and numbness. During the next visit, the patient's condition had visibly worsened and showed clear signs of clinical deterioration. This should have been a red flag for the attending nurse prompting the nurse to call for emergency patient review. However, she only asked for a phone order for paracetamol assuming that this will keep the blood pressure in check.

When the Resident Medical Officer received the phone call regarding the patient, s/he should have asked for more details about the patient before giving a phone order for paracetamol. Providing a prescription for a medication without knowing the complete patient details is not good medical practice. Despite giving a phone order for paracetamol, the Medical Officer should have ensured that s/he make an urgent patient review immediately to ensure that there is nothing seriously wrong with the patient. However, the Medical Officer became busy with other patients and forgot to check in on the medical condition of Mrs. Sally Brown.

During the subsequent hourly checks, the nurse found that the blood pressure was elevated at every check-up. However, the nurse did not call for a review by a medical officer when s/he realized that the blood pressure was constantly rising. At the fourth hourly check-up, the nurse found that the patient's head had slumped forward and her respiration had become strained. This was when she called for a medical team who declared that the patient had experienced an acute ischaemic stroke. Requesting a review at any one of the numerous time points when the patient appeared confused, complained of numbness, and showed a higher blood pressure reading could have prevented the symptoms and severity of the stroke.

Critical Analysis of Management of Clinical Deterioration – Case Study

In the given case study, the nursing care provided to the patient has been careless and sub-optimal. When the nurse found that the patient only responded to painful stimuli, her blood pressure was elevated, and she was experiencing a headache, she assumed that an oral dose of paracetamol would be sufficient to address the symptoms. Also, when she noticed that the blood pressure was increasing steadily, she did not take any further action to call a qualified professional or take measures to bring down the blood pressure. Hypertension is a documented risk factor for many disorders including heart attacks and strokes, and keeping the blood pressure in check is the most important step for preventing stroke (Cadilhac *et al*., 2012).

Studies of patients in different settings have shown that in older patients, blood pressure may be temporarily elevated in the hospital due to illness and stress. Blood pressure readings taken during hospital stay often fluctuate and this should not form a basis for diagnosing a patient as being hypertensive (Axon *et al*., 2011). However, a constant increase in the patient's blood pressure is a definite cause for concern. The patient's blood pressure reached a value of 190/104 mmHg and continued increasing, which is a definitive indicator of hypertensive emergency (Bethesda, 2006). This combined with other symptoms such as numbness, headache, and temporary amnesia should have provoked the nurse to call in an emergency patient review.

The patient was experiencing the classic symptoms of stroke which were weakness, numbness on one side, reluctance in movement, temporary amnesia and confusion, headache, and a steady increase in blood pressure (Lisabeth *et al*., 2009). Remaining alert and being able to identify these signs and take emergency measures is important for a nurse to prevent these incidents from taking place in a hospital setting.

Conclusion

This case study was reviewed to be able to understand the causes and features of clinical deterioration of patients in a hospital setting. In this case study, the nurse ignored the first and major sign of possible emergency which was the steady increase in blood pressure every hour. This was combined with several significant symptoms such as numbness, headache, weakness, and amnesia. Despite the fact that these symptoms could have been related to her age, recent surgery, and painkillers, the nurse should have taken the opinion of another qualified individual.

This case study is a strong example of how ignoring significant symptoms can lead to disastrous outcomes for the patient. This is an eye-opener for registered nurses that any untoward symtpom or incident needs to immediately be brought to the attention of qualified medical officers. It is also the duty of medical officers to check in on patients personally if clinical deterioration is suspected or reported.

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