

1) Consider the patient situation

Zac Smyth is a young boy who is 18 years of age and currently, studying engineering at a university away from his home. He has arrived from another state and lives on his university campus. He enjoys occasional alcoholic drinks and going to the pub with his friends. He has a part-time job working at the local supermarket and he visits his family from time to time. On the night in question, Zac met a few of his friends at one of his friend's house and, as per his statement, had 4 full-strength beers to drink. Following this, the group went to a local pub and had another beer there. Later in the night, he got into an argument with an aggressive man who ended up pushing him to the ground. As a result, Zac hurt his head on the curb resulting in a laceration and bleeding. At this point, Zac was completely alert and had not lost consciousness. He could recall all the events of the night and he appeared totally normal. His GCS value was 15, which further confirmed that the patient was completely conscious and alert.

Zac's past medical history is only significant for childhood asthma and there is no evidence of asthma exacerbation or wheezing attacks in the past few years. In this scenario, I feel that Zac's past medical history is insignificant for making a diagnosis about his current medical condition. This is because Zac doesn't have a chronic illness or exacerbation of previous symptoms; rather, he has been in an accident where his head hit the curb on the road. We know that any presenting symptom at this point is directly related to this incident and this makes it easy to carry out necessary assessments as per standard protocols for head injuries.

2) Collect Cues and Information

Once Zac arrived at the hospital, his vital signs were noted and a complete checkup of his wound was done. His blood pressure was slightly elevated at 141/88 mmHg which may be attributed to Zac's recent experiences of the night (Mucci et al. 2016) and the fact that he had had 5 alcoholic drinks earlier (Santana et al. 2018). Apart from that, his heart rate, respiratory rate, pulse oximetry, and temperature were all within normal limits. His GCS values for eyes, verbal, and motor are 4, 4, and 6 respectively, as opposed to the normal values of 4, 5, and 6. This shows that Zac is experiencing verbal confusion in that he is unable to completely recall the events of the night (Mehta and Chinthapalli 2019).

An examination of the wound revealed that it was a laceration of size 4 cm over the occipital region of his brain and there was a slow ooze of blood still coming out from the wound. He had not been administered any analgesics by the paramedics and his pain score was found to be 5/10.

Given the scenario in which the patient got hurt, the current status of the wound, and his deterioration wherein he is unable to recall the events of the night, certain assessments need to be made and certain diagnoses need to be confirmed or ruled out depending on the

results. An injury to the skull has a high chance of being intracranial or resulting in internal bleeding and this can further become dangerous to the patient. Also, there may be a fracture in the skull that needs to be assessed and ruled out (Oyemolade and Adeleye 2020). In order to evaluate all these possibilities, a CT scan or an MRI needs to be undertaken to visualize the condition of the injury inside the skull and to rule out the possibilities of fractures, intracranial injury, or internal bleeding. Another point of concern is that the patient had a GCS of 15 earlier and he was able to recall all the events of the night; however, after a few hours, his GCS for his verbal fell down by one point and he is unable to recall the events coherently. This is a cause for concern as this can indicate serious injury in the skull (Liew et al. 2017).

At this point, I am suspecting a concussion because of his confusion and inability to recall the events of the night. This may just be the initial stage; however, appropriate assessments and management need to be initiated immediately in order to avoid further damage. One of the most popular means of assessing concussion is by using the Sport Concussion Assessment Tool (SCAT) which can be modified to assess concussion in Zac. This tool analyses presenting symptoms, memory, cognition, and neurological signs after which a score is calculated to assess for concussion (Davis et al. 2017).

3) Process the Information

Zac is a young 18-year old boy who, following a confrontation with another man at the pub, hit his head on the curb and sustained a head injury. This injury was a 4-cm laceration over the occipital region of the brain, which caused him pain and led to a lot of bleeding. Although he never lost consciousness throughout the night, his ability to recall all the details of the incident deteriorated and he started demonstrating verbal confusion as was evident by a slight drop in his GCS value.

Considering Zac's injury, lacerations are blunt force injuries that affect the skin as well as the underlying tissues. The scalp is different from other parts of the body in its anatomical features and blood supply and therefore, lacerations in the skull are much more serious than lacerations on other parts of the body. SCALP is a mnemonic for skin, subcutaneous tissue, muscular aponeurotic layer, loose areolar tissue, and pericranium. When there is excessive bleeding from the laceration, it indicates that the muscular layer is affected as brain muscles have an abundant blood supply for their various functions. Understanding the various layers of the scalp to assess the amount of bleeding from the wound and stop the bleeding using appropriate techniques (Ellis and Mahadevan 2013). As the patient's history already indicates that he does not have any reported allergies and he has had a tetanus injection just last year, these are not issues to worry about while dressing the wound. Another indication here is the deterioration in the ability of the patient to recall the events of the night. This ability was perfect just a few minutes after the injury; however, once he reached the hospital, he displayed

confusion and was unable to recall the incident properly. This might indicate a concussion and it needs to be evaluated and assessed appropriately using standard tools (Wang et al., 2018).

Obviously, any diagnosis cannot be made until appropriate neurological assessments and evaluations are conducted for confirmation. Therefore, a CT scan will confirm the presence or absence of fracture on the head and may give indicators as to why the wound might still be bleeding. A concussion assessment tool such as SCAT may indicate if the cognitive abilities of the person are intact, if there is no memory loss, and if his neurological presentation is normal. Based on the diagnosis of fracture or concussion or both, appropriate management measures may be taken.

References

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