

Kate-Tastrophe: A Case Study in Brain Death



by
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Part I

Trish Norris sighed as she turned into the driveway. It had been a long day. Rushing straight from work to the squash club monthly meeting had been too much. Then she saw the old green Daihatsu ahead of her and she smiled. “Kate’s home....” She glanced at her watch. “We can chat while I cook something,” she thought to herself. She leaned over, grabbed her handbag from the front passenger’s seat, and climbed out of the car. As she locked her door she glanced at the Daihatsu. It was a bit of a bomb but at least Kate was independent.

As Trish swung around towards the house, the front of Kate’s car caught her eye. “What’s that?” she frowned to herself. The front of the automobile was badly damaged. She felt her skin begin to prickle. “Kate,” she called out, as she rushed in the back door of the house.

“Kate, are you there?” Trish’s voice grew louder when she found the kitchen silent. She ran along the hall and into Kate’s room. “Oh, no,” Trish exclaimed. Kate lay on the floor by her bed and Trish fell down beside her only daughter. “Kate!” she yelled again. There was no response.

Trish couldn’t think. Her head was spinning. She should be doing something but she didn’t know what. “Check breathing!” she shouted out in relief. Trish’s heart was thumping and its sound filled her eardrums as she pushed her cheek close to Kate’s nose to see if she could feel her daughter’s breath. Trish raised her head. “Ambulance, ring ambulance.” She tugged her cell phone out of her bag.

Trish was shaken out of her sobbing by the siren. The house was suddenly chaotic. “What’s happened?” one of the ambulance officers gently inquired. “It’s my daughter, along here, she’s on the floor, I don’t know... quickly, quickly... her car’s badly damaged,” the words tumbled out.

The officers pushed past Trish and knelt beside Kate. They talked quickly and quietly to themselves as they examined Kate. One lifted his head up. “Has she been taking any medication lately?” he asked.

“No, no, I don’t think so,” Trish shook her head in the negative.

“What’s in that bottle up there?” He waved his hand towards a small bottle on the bedside table.

“I don’t know, I really don’t know, just something... something for headaches I suppose,” Trish replied.

The officer retrieved the bottle and the two men conferred. “I’m sure you realize we need to get your daughter to hospital as fast as we can but first we must put a tube in her throat to help her breathing,” said one of the men to Trish.

It seemed only moments later that Trish heard the back door of the ambulance bang shut behind her. She clung to Kate’s hand as the vehicle lurched out of the driveway. Then the door was opening and someone took Trish’s hand. “Come with me,” said a gentle voice and Trish followed in a daze.

Questions

1. Is Kate conscious, unconscious or asleep (be prepared to defend your choice of answer)?
2. How might unconsciousness be defined?
3. What sorts of events can give rise to unconsciousness?
4. What parts of the brain are necessary for consciousness?
5. Why might the ambulance officers put a tube in Kate's throat?

Part II

Trish looked at her watch and realized with a slight jolt that it was after midnight. All the questions she'd been asked, all the probing about Kate's lifestyle and her friends. "Why, oh why did I ever get those pills?" she reproached herself. A shadow moved beside her.

"Mrs Norris, why don't you try to sleep now? Kate is in the best possible hands, and I am sure the doctors will let you know exactly what's happened as soon as they find out. We'll wake you up if there's any news," said the nurse.

"I still don't think I can sleep," Trish sighed heavily. She looked at her daughter and at all the tubes and monitors and the ventilator mechanically ventilating her lungs. "Her heart seems to be beating strongly, doesn't it?" she asked. The nurse nodded. Trish sighed again. "You will wake me if there's a change?" The nurse nodded again and gently led Trish away to a sofa in the quiet of the waiting room.

Question

1. Is Kate dead? Consider how death may be determined.

Part III

Trish brushed away a tear as she thought about what the police had told her. Kate's car had been seen sliding off the road into a tree on the wet road yesterday morning. A passing cyclist had reported talking to Kate. After determining that she was okay and that the car could be driven despite the damage to the front end, he had gone on his way.

The doctors thought that Kate had hit her head when the accident occurred and, although she initially felt okay, a headache probably had developed a few hours later due to a subdural hematoma. Trish felt some vague relief that the sleeping pills hadn't been the problem after all, but it didn't stop another tear from rolling down her cheek. When they brought Kate back from the operating room, Dr. Timms had stressed the severity of the situation. He had gone back over events from the time of the accident until the completion of surgery and finally talked gently about why monitoring of the pressure inside the brain, and of the function of Kate's brain, was so important.

Questions

1. What is a subdural hematoma?
2. What technique(s) might be used to detect it?
3. Why is monitoring of the pressure inside the skull important in the situation described?
4. Why is a patient with a subdural hemorrhage likely to lose consciousness?
5. Why is a headache likely to develop when a subdural hemorrhage occurs?
6. Suggest ways by which drug-induced unconsciousness might be differentiated from unconsciousness induced by a subdural hemorrhage.

Part IV

Trish watched as Dr. Timms walked towards her. “Mrs. Norris, I wonder if we could have a chat?” he asked gently. She nodded and accompanied both Dr. Timms and the bedside nurse along the corridor to a quiet room.

“I find this hard to say, but unfortunately all the signs indicate that Kate’s brain is dead,” Dr. Timms paused. “Even though we removed the blood clot that was pushing on her brain we were too late and her brain has not recovered.”

Trish felt her concentration slipping away. In her mind’s eye she could see Kate bouncing into the kitchen on the morning of her 21st birthday. Trish tried to focus back on the doctor’s face. “Although Kate’s brain is dead, she was a healthy young woman and so perhaps out of her death something good can happen.” Dr. Timms paused again. “Would you consider donating her organs to help other people live?”

Questions

1. Which of Kate’s organs could be donated for use in other patients?
2. How might patients be protected from prematurely being declared ‘dead’ when doctors want organs for donation?
3. What events might occur in the hospital if Trish gives permission for donation of Kate’s organs?

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