Case 2014-7: Consciousness Confusion
A 16-year-old girl with a history of abdominal pain was scheduled for upper endoscopy and colonoscopy under general anesthesia. Her past medical history was significant for “non-epileptic seizures.” She was otherwise healthy but anxious about the procedure. The patient was transported to the procedure suite after receiving 2 mg of midazolam intravenously. Anesthesia was induced with propofol, and a laryngeal airway was placed atraumatically. General anesthesia was maintained using a balanced technique of propofol, fentanyl (2mcg/kg) and isoflurane. She received dexamethasone and ondansetron for anti-emetic prophylaxis. The case proceeded uneventfully and the laryngeal airway was removed under general anesthesia. The patient was transported to the PACU and spontaneously awoke approximately 20 minutes later. For the next 10 minutes, the patient was conversant with the PACU nurse. She complained of minimal discomfort but remained quite anxious. Then the patient became unconscious. The nurse noted completely normal vital signs but was unable to arouse the patient. She received no medications in the PACU, only I.V. normal saline.

The attending anesthesiologist was contacted and came to the bedside. Respiratory rate and oxygen saturation remained normal. The Glasgow Coma Scale (GCS) score was 3. Of note, vital signs did not change with painful stimuli. The patient’s pupils were equal, round and reactive to light. The attending summoned additional assistance, performed a complete examination that was normal except for depressed consciousness, and requested point-of-care laboratory testing. All elements of a basic metabolic profile were within normal limits, including serum glucose. The anesthesiologist assistant who had cared for the patient examined all medication vials used during the case to rule out an inadvertent syringe swap.

The neurology service was consulted. Physical examination by the neurology fellow yielded the same findings. The patient’s gag reflex was reduced, but the patient was able to protect her airway. Vital signs remained normal. Preparations for urgent intracranial imaging were under way when the attending neurologist arrived.

The attending neurologist performed a focused exam and offered repeated, direct verbal assurance to the patient. Within a minute or two, the patient awoke, was conversant, and had no recollection of the event. The attending neurologist diagnosed conversion disorder (functional neurological symptom disorder) and initiated appropriate follow-up. The patient was admitted for psychiatric observation.

Discussion
Conversion disorder is characterized as the occurrence of specific signs or symptoms with no organic medical cause (see table). In this case, the patient’s unconsciousness and inability to react to pain had no obvious organic explanation. Patients who exhibit this diagnosis are not malingering or intentionally feigning such symptoms, but are truly experiencing them. This disease is rare, with a lifetime incidence of approximately 0.01-0.3 percent.

### Diagnostic Criteria for Conversion Disorder (functional neurological symptom disorder) in DSM V

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<th>Description</th>
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<td>1.</td>
<td>One or more symptoms are present that affect voluntary motor or sensory functions or cause transient loss of consciousness.</td>
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<td>2.</td>
<td>The symptom is, after appropriate medical assessment, found not to be due to a general medical condition, the direct effects of a substance, or a culturally sanctioned behavior or experience.</td>
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<td>3.</td>
<td>One or more diagnostic features are present that provide evidence of internal consistency or incongruity with recognized neurologic or medical disorder.</td>
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<td>4.</td>
<td>The symptom causes clinically significant distress or impairment in social, occupational, or other important areas of functioning or warrants medical evaluation.</td>
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Notes: i. A relevant psychological stressor is often present but not a requirement.
ii. Malingered or feigned symptoms are not considered functional.
This patient exhibited a very severe form of conversion disorder. There are a limited number of case reports on this topic and no other reported instances in the AIRS database. In this case, transient loss of consciousness was present, and the unconsciousness was unrelated to another medical condition or toxin.

When approaching an unconscious patient in the postoperative period, the differential is wide. First, attention should be given to life-threatening conditions, and airway, breathing and circulation must be ensured. Assistance should be summoned if available. Once the physical exam is complete and the patient is medically stable, investigation of the potential cause should follow. Any sedative or anesthetic agent administered may be the culprit. Consideration should be given to the judicious use of reversal agents. Metabolic disorders should be ruled out. A rapid method to ascertain blood chemistry, such as point-of-care testing, is valuable. At the minimum, a glucometer should be utilized while the other laboratory studies are pending. Obtaining a blood gas may be useful to diagnose a possible acid base derangement. If neuromuscular blockade was used, incomplete reversal should be ruled out. Screening for toxins and drugs of abuse is recommended. Temperature is a vital sign but may be initially overlooked; hypothermia can cause a loss of consciousness or potentiation of residual anesthetic drugs.

Many perioperative complications are iatrogenic. In this case, the anesthesiologist assistant was wise to save the medication vials used during the case. This allowed verification that the intended medications were administered.

A central neurological condition should be considered once other causes are ruled out. The pupils should be examined, a gag reflex verified and reaction to painful stimuli determined. Consultation with experts in this field may be desirable. This particular patient benefitted from an emergent neurology consultation and this prevented the patient from undergoing unnecessary testing, including cranial imaging. A thorough chart review and discussion with the family should take place after the initial stabilization of the patient to explore other causes and reassure the family. In this case, the history of psychogenic non-epileptic seizures was a clue to the neurologist to consider this disease.

While postoperative coma due to conversion disorder is rare, knowledge of this condition is critical as a patient may be exposed to numerous unnecessary studies and testing if this is not considered in the differential. Once clinical symptomatology is found to be inconsistent with physical exam, one may identify conversion disorder as a provisional diagnosis.

Conversion disorder is frequently confused with malingering or factitious disorder. The hallmark of this condition is the patient not intentionally producing the symptoms and that it is related to an underlying psychological etiology with or without an identifiable stressor(s). In this case, an anesthetic and the anxiety surrounding the procedure was a significant stress that may have triggered the attack. In this presentation, it was quite remarkable that the patient had no reaction whatsoever to noxious stimuli; inability to perceive pain has been described before in severe forms of conversion disorder.

Initial treatment of conversion disorder is reassurance. The patient may have a complete inability to cope with the situation in a functional way, and thus reducing the anxiety or removing the patient from the situation can be helpful. The psychiatry service should be consulted once a conversion disorder is diagnosed or strongly suspected. Outpatient treatment for conversion includes individual psychotherapy (cognitive behavioral therapy and behavioral techniques), psychotropic medications and family therapy. In a case such as this one, consultation with definitive follow-up should occur before the patient is discharged.

Non-organic or psychiatric illness can cause symptoms in the perioperative period that can be easily confused with more serious complications. In stable patients, psychiatric disorders should be considered before prolonged or invasive testing is initiated.

Bibliography:

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