FAILURE TO DOUBLE-CHECK BLOOD-PRODUCT DOSING IMPERILS TONSILLECTOMY PATIENT

By Barbara Szeidler, *RN, BS, LNC, CPHQ, CPPS, CRICO*

DESCRIPTION

An 8-year-old girl experienced a tenfold dosing error of clotting factor requiring admission and post-operative observation due to increased risk of stroke following surgical intervention for a post-tonsillectomy complication.

KEY LESSONS

- Fatigue can have consequence during medication/blood product administration.
- Verbal orders should only be used in emergent situations; when used, incorporate read back/feedback.
- Products released from the blood bank may not be subject to the same dispensing/oversight processes as pharmacy-dispensed medications.
- Product was administered without reference to the order; design systems to ensure the five rights of medication administration.

CLINICAL SEQUENCE

Fifteen days after undergoing a planned tonsillectomy, an 8-year-old-girl with a pre-existing Factor VII deficiency (clotting disorder) presented in the Emergency Department, late at night, with complaints of bleeding and coughing up blood. At 4:30 a.m., the attending anesthesiologist and a (fatigued) fourth-year anesthesia resident reviewed the patient's history and discussed the need to administer Factor VII (a clotting agent prior to the necessary cauterization procedure). A hematologist gave a verbal order for 500 mcg (0.5 mg) of Factor VII (NovoSeven), to be dispensed from the hospital's blood bank to the pre-op area.

In the pre-op area, the anesthesia attending and resident discussed the necessary dosage: 0.5 mg. When the Factor VII arrived, no order was attached. The label stated NovoSeven 5 mg (5000 mcg). At the time of this event—due to different electronic systems—the hospital did not have a standard process in place for the review of the electronic health record (EHR) to confirm the hematologist's order (the EHR required a refresh for the order to be visible). The anesthesia attending and resident referred to the hematologist's notes related to the girl's tonsillectomy. The anesthesia attending and resident agreed that the correct dose was 500 mcg/0.5 mg. The resident administered the entire amount via IV (no double-check was required).

The patient was brought to an operating room for cauterization. As she was placed under anesthesia, and during the pre-op checklist, the dosing error was realized by the anesthesia resident who alerted the surgical team. The hematologist was consulted and the patient underwent cauterization. An apology and disclosure was made to the family and the patient's PACU stay was extended due to the concern of clot formation. She required close observation until the Factor VII had metabolized (approximately 6–8 hours). The patient experienced no complications.

ALLEGATION

The patient's family filed a claim against the anesthesiology resident and the organization, alleging wrong medication dose dispensing and administration.

DISPOSITION

The case was settled in the low range.

ANALYSIS

Risk: *Resident was on a 24-hour rotation and admitted fatigue.*

Recommendations: Human factor awareness of the effect of fatigue on performance is necessary to improve teamwork and patient safety. Cognition is impacted by fatigue, and clinicians should communicate moments when they may not be fully engaged, allowing the clinical team to collaborate.

Risk: *Factor VII is not a commonly used product, and appropriate dosing might not be familiar to all providers.*

Recommendation: For rarely ordered medications/products, consider dispensing the lowest dosage needed.

Continued on page 2

Continued from page 1

ANALYSIS

Risk: *A verbal order was acted on in an urgent, but non-emergent, situation, and could not be cross-checked due to disparate electronic systems.*

Recommendation: Review of a written order for the five rights of medication administration is general protocol in non-emergent care. Working in an environment with disparate record systems often require specific systems or processes to reconcile patient information.

Risk: *Factor VII came from blood bank with no order attached (unlike products from the pharmacy), which means that the safety processes built into pharmacy dispensing were not replicated by the blood bank.*

Recommendation: Medication-like products should have the same safety processes applied allowing full pharmacy or pharmacy-like processes for dosing review.

REFERENCES

Teamwork and Communication in Surgical Teams: Implications for Patient Safety

Case Where Culture Helped and Hurt