Neurosurgery Loss Lesson

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When a patient dies during elective surgery, it raises many questions about the decision to perform surgery, the type of procedure selected, the risks and potential benefits to the patient, and the surgeon's skill and clinical judgment.

The case discussed here raises additional questions regarding the collaboration between the neurosurgeon and the general surgeon who provided anterior access to a spinal location. Complications that occurred while gaining access resulted in a lawsuit with both surgeons named as defendants.

Case Summary
A 61-year-old obese female (BMI 38) presented to a neurosurgeon with chronic neck and back pain. Conservative measures had not successfully reduced her pain. She had undergone epidural injections, facet injections, and facet rhizotomies, and she had been fitted with a spinal cord stimulator without relief. She was diagnosed with advanced degenerative disc disease. The neurosurgeon recommended anterior lumbar interbody fusion with placement of an anterior plate.

This patient had a lengthy medical history. Previous surgeries included small bowel resection for Crohn's disease and hysterectomy.

Both the general surgeon and neurosurgeon met with the patient to discuss her options and to outline the risks of the proposed procedures. The risk of vascular injury that could result in bleeding and possible death was explained.

During the procedure, the general surgeon, who used an anterior approach, encountered a large amount of retroperitoneal fat. Different retractors were needed to successfully expose the L5-S1 space.

Manipulation of the common iliac vein was needed to gain access to the surgical site. The vein was adherent to the anterior surface of the spine, and attempts to move it resulted in a tear. Bleeding was noted to be massive.

Efforts to repair the vein resulted in additional tears and more bleeding. Other surgeons were called to assist. The patient received blood transfusions but went into ventricular tachycardia and full cardiac arrest. Resuscitation attempts were unsuccessful.

The patient's husband filed a lawsuit alleging lack of informed consent and negligent performance of surgery.

Allegations
The plaintiff's experts attacked the care provided by the general surgeon and the neurosurgeon. They questioned whether the orthopedic surgical procedure was necessary considering lack of evidence that the patient's back pain was due to instability or trauma. They opined that the pain was due to muscle pain, not degenerative disc disease.
They testified that this patient was at higher risk due to her comorbidities—that her obesity added complexity, and her previous surgeries for Crohn’s disease made the surgical field more challenging, due to the likely presence of adhesions. They felt the neurosurgeon should have made it clear to the patient that she was at increased risk.

The general surgeon was faulted for not making arrangements for a backup vascular surgeon.

Defense experts supported the clinical decisions and care provided. They stated that the patient’s body mass index did not preclude her from having surgery. They also felt that, although surgeons’ preferences differ, the anterior approach was reasonable.

**The Doctors Company Neurosurgery Medical Malpractice Claims Information**

In a review of claims filed against neurosurgeons insured by The Doctors Company, 54 percent of patients alleged improper performance of surgery. However, expert reviews indicated that most of those case outcomes were known complications and not substandard care.

The remaining cases that alleged improper performance were related to technical performance. They included incorrect body site, poor technique, and misidentification of nerves, such as the motor branch of a median nerve severed during a carpal tunnel surgery and a nerve to the vocal cords damaged during the anterior approach for fusion of C4-5, C5-6, and C6-7.

A review of patient injuries in these neurosurgery claims showed that hemorrhage was identified as an injury in 2 percent of cases. Of the hemorrhage cases, half occurred during spinal surgery, and the patients in those cases expired.

To provide additional context to the claims data provided here, the most common injury in neurosurgery claims was unrelieved pain (25 percent), followed by nerve damage (16 percent), death (15 percent), and puncture or laceration (10 percent).

**Recommendations**

Although the experts sometimes disagreed with one another, their opinions provide insight into this tragic case.

Decisions to recommend a surgical procedure require clear documentation of the surgeon’s rationale. In this case, the neurosurgeon’s reasons to recommend surgery were not clearly documented in the patient’s medical record, opening his judgment to scrutiny and criticism.

Communication between the neurosurgeon and the general surgeon is important. Often, general surgeons do not have an opportunity to thoroughly evaluate patients prior to surgery. They must then depend on the neurosurgeon to provide the information—such as obesity, comorbidities, and previous surgeries—that should be considered in their surgical approach.

Experts stated that the patient’s history and comorbidities placed her at higher risk for surgery and for the anterior approach. They disagreed on whether the surgeon communicated the increased risk to the patient.

All experts agree that information provided during the informed consent process must be specific to the patient, the procedure, and the situation. For example, male and female patients may suffer different complications, and older patients or patients with comorbidities may be at increased risk. Patients should be encouraged to factor that information into their decision to undergo a surgical procedure.
In cases with more than one surgeon, the primary surgeon is responsible for making sure the informed consent process takes place and that all material risks are discussed. This is especially true when the second surgeon does not meet with the patient prior to surgery.

Surgeons must evaluate patients in light of their own training and experience. A review of The Doctors Company claims indicates that most claims are filed against competent physicians with long histories of quality care. The cases that result in claims are often complex or represent unanticipated conditions. In this case, the patient's iliac vein adhered to the spinal column, resulting in a tear and hemorrhage. Experts asked whether this patient’s comorbidities and history should have prompted arrangements for a vascular surgeon to be available to help in the event of complications.

**Conclusion**
These cases are devastating to everyone involved—including the surgeons, who make every effort to provide the highest quality of care. The claim or lawsuit that often follows adds to the trauma.

Document the clinical rationale for recommendations and all discussions with patients about risks, potential benefits, and other options. When complications occur, communicate with the patient and/or family to help them understand what occurred and what steps will be taken, and help them connect the complication with the informed consent discussion that took place before surgery.

Not all patient injuries can be avoided, but surgeons can take steps to reduce the incidence of injury and help improve defensibility if things don’t go as planned.

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**Further Reading**
- Keys to Patient Safety: Patient Selection for Elective Procedures
- The Faintest Ink
- Teamwork in the OR
- Informed Consent: Substance and Signature

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