Robotic Surgery: The Human Cost of the Learning Curve

A PPIC® Closed Claim Case Review by Deborah J. Price, RN, MSN, PhD, Director, Risk Services

ABSTRACT

The number of robotic surgeries necessary for a surgeon to perform before reaching mastery varies significantly depending on the surgeon’s general skill level and laparoscopic proficiency, the procedure performed, and the time between procedures. Some sources in a 2010 Wall Street Journal article stated very few robotic surgeries are required; some surgeons stated that proficiency requires as many as 700 robotic procedures. The NCBI claimed that the learning curve for a surgeon skilled in advanced laparoscopic procedures is 50, and UpToDate declared that a gynecologist might need 70 robotic cases to become proficient. Regardless of the number of robotic surgeries required for a surgeon to achieve proficiency, there is always a learning curve for robotic surgery.

CASE OVERVIEW

This case involves a 37-year-old married woman who underwent a ten and a half hour robotic procedure. She presented to her gynecologist (the defendant) with complaints of severe pelvic pain and a previous diagnosis of stage IV endometriosis. The patient did not want to undergo drug therapy. Recommended treatment was robotic surgery to excise the endometriosis. The defendant had performed twenty robotic procedures prior to operating on the plaintiff.

During the surgery, there was one small full thickness area of excision in the sigmoid colon, a partial thickness bladder cystotomy, and cauterization of the uterine artery. The defendant recognized and repaired those conditions as they occurred and did not view them as surgical complications, but instead as known risks of the surgical procedure.

The patient’s post-operative difficulties included an elevated white blood count, increased pulse and blood pressure, and difficulty with elimination. CT scan findings included differential diagnoses of perforated viscus and a developing abscess. The radiologist recommended repeating the CT, but the defendant didn’t order one because of patient improvement. The patient was discharged home on post-op day six.

Over the next four days, there were a number of phone calls exchanged between the patient’s mother, husband, and the defendant. The patient was having trouble with nutritional intake, nausea, vomiting, and elimination. The defendant recommended over the counter treatments, including Gas-X and suppositories. The family reported periodic improvement, always followed by the return of the patient’s symptoms. The defendant stated in deposition that she was concerned about her patient, but the family reported nothing alarming; otherwise, she would have had the patient come in or go to the emergency room.

Five days after discharge from the hospital, the patient’s husband took her to the emergency room. She underwent emergency surgery for repair of a perforated viscus, peritonitis, and intra-abdominal abscesses, with three liters of liquid stool removed from her peritoneal cavity. Following a month long stay, the patient was discharged with a colostomy. Six months later, she returned to the hospital.

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for take down of the colostomy and a diverting ileostomy to allow healing. She also had a vesicorectal fistula repaired at that time. After another two months, she underwent surgery to close the ileostomy. She did well for a year and then developed another fistula. She underwent additional surgery to remove the fistula and repair a hernia at the colostomy site.

INJURY

Perforated viscus, peritonitis and intra-abdominal abscesses, and fistulas.

NEGLIGENCE ALLEGATIONS

The plaintiff’s criticisms of the defendant were three-fold. The first criticism involved the length of the procedure, with implications that the defendant used improper technique and was not competent to perform the surgery. The defendant had performed numerous laparoscopic procedures involving bowel repair. The high thermal setting of the electrosurgical cutting device raised further questions about the defendant’s competence.

Second, the plaintiff suggested that the defendant was operating beyond the scope of privileges and did not have the requisite training and experience to have received bowel repair privileges in the first place. The Assistant Medical Director (AMD) and the Vice President for Quality of the hospital testified that the defendant went through an incremental approach to obtaining robotic surgery privileges. The defendant had “Class III privileges” to perform necessary laparoscopic bowel repair. According to the AMD, the surgeon went through an established proctoring process of three cases to obtain robotic privileges for the endometrial surgery.

Third, the plaintiff reserved highest criticism for the defendant’s post-operative management of the patient. The phone calls from the patient’s family should have prompted the defendant to either see the patient or refer her for immediate evaluation. The defendant had only a vague recollection of those calls, which were undocumented.

EXPERT OPINIONS

Plaintiff

All plaintiff experts were critical and opined a breach in the standard of care. Collectively, they criticized the defendant for the following:

1. Spending an exceedingly long time in surgery, at least twice the length of an average case
   a. Possible cause of surgeon fatigue and loss of concentration
   b. Indicative of lack of skill and expertise
2. Failing to determine through cystoscopy whether a suture went all the way through the bladder and/or involved the ureter
3. Lacking the requisite skill, training, and experience to treat a bowel injury and to follow-up on a patient who has had one
4. Failing to convert to an open procedure
5. Failing to request assistance from an experienced general surgeon

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6. Using an 80 watt current for electrosurgical cutting, causing multiple thermal burns
7. Operating under the designation of urogynecologist without having a fellowship in urogynecology nor any additional training in this area
8. Failing to provide adequate post-operative care
   a. Discharging patient on antibiotics with an elevated white blood cell count without investigating the source of infection
   b. Failing to repeat the CT as recommended by the radiologist
   c. Failing to have the plaintiff return for evaluation on the very first phone call of concern
   d. Failing to have the plaintiff return on any of the subsequent days when phone calls were made by the family
9. Credentialing process concerns

Defense
The opinions of the defense experts were not critical of the pre-operative care and less critical of the operative care, but equally critical of the post-operative care. Pre-operatively, the informed consent was complete and well documented. Perforation and infection were both included in the documentation of possible adverse outcomes. No expert was supportive of the post-operative care, although the main criticism varied from not repeating the CT as suggested by the radiologist to not acting on the multiple phone calls from the patient’s family following discharge.

DISCUSSION

Inherent in endometrial surgery, regardless of performance, is the likelihood that a small discoid injury to the bowel will require intra-operative repair. Such inherent repair is not considered a complication. The defendant’s decision not to convert to an open procedure or call in a general surgeon to assist is a judgment call for the physician. These actions would not have guaranteed the elimination of some or all of the complications. Earlier intervention may not have prevented the colostomy, but it would have certainly shortened the patient’s prolonged recovery and probably prevented at least some of her significant post-operative complications.

Note that the manufacturer of the robotic device provided the defendant’s robotic training and proctoring process. This included one day of training at the manufacturer’s facility and three proctored procedures at the hospital. Also of interest is that the defendant had no training in robotic bowel repair.

The plaintiff has not had any further surgery, but she is at greater risk than the average person to develop another fistula and/or hernia. Currently she has no restrictions on her activities. She continues to experience pelvic pain.

The case settled during mediation, with indemnity of $1,375,000 paid to the plaintiff on behalf of the defendant.

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RISK LESSONS

1. Memorialize all telephone calls to and from patients in the medical record. Documentation should include who called, the date and time of the call, the reason for the call, the instructions given, and the signature of the provider.

2. Whenever a consultant (in this case the radiologist) suggests specific follow-up, the primary provider (in this case the surgeon) should strongly consider the implications. Medical record documentation should clearly state the rationale behind declining the suggestion.

3. There is a national trend toward an increase in negligent credentialing claims. Not all states recognize negligent credentialing claims, but the number of those that do is increasing. Carefully review and update credentialing processes.

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