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hether you handle malpractice cases regularly or you have a general personal injury practice, at some point you likely will need to evaluate a general surgical malpractice case. These cases often present common fact scenarios, and understanding them will better prepare you for the evaluation process.1

What is a general surgical case? Despite the name, a general surgical case is a specific procedure in the abdomen. Common general surgical procedures include gallbladder removal, hernia repair, appendectomy, and gastrointestinal surgery. General surgeons also handle tumors and abscesses throughout the body, such as those in the breast or limbs.

These cases often involve some type of postoperative infection, such as an abscess or peritonitis. The basis for a general surgical malpractice case is usually the infection's source or lack of timely diagnosis and proper treatment. Infections may occur as the result of bacteria that is naturally present on the skin entering an incision. Bloodstream infections can occur as the result of improperly maintained IVs or central lines, or an abdominal infection can result from the surgeon perforating the bowel or bladder during surgery or mistakenly cutting another structure, such as the biliary tree.

General surgical malpractice cases frequently present with similar constellations of signs, symptoms, and test results; the following should be considered when evaluating a case.

Abnormalities in CBCs

If severe complications or injury follow a general surgical procedure, a complete blood count (CBC) should always be one of the first things you discuss with an appropriate expert. A CBC can provide many pieces of information that may show that an infection diagnosis was missed or delayed, starting with an elevated white blood cell count (WBC).

White blood cells help the body fight disease and infection. A normal WBC is 3,500 to 10,500 cells per microliter.2 Almost every CBC report will indicate the normal range and if the count is high or low. The body generates increased WBCs (leukocytes) in response to disease or infection. A slightly elevated



WBC following a surgical procedure may not be a dire sign, but any count over 12,000 should be viewed suspiciously as there may be an infection. Counts higher than 15,000 are likely to indicate infection.

White blood cells consist of five different cells: neutrophils, lymphocytes, monocytes, eosinophils, and basophils. Blood counts will show these as percentages that total 100 percent. The counts should indicate normal ranges and whether the results are high or low. Elevated lymphocytes are particularly good indicators of active infection.3

Blood urea nitrogen (BUN) is another CBC measure; it reports the amount of nitrogen in the blood and shows renal function. An elevated BUN can indicate shock, hypovolemia, or gastrointestinal bleeding, among other things.4

Elevated WBC and BUN together with any other sign normally associated with infection should place a postoperative infection or bowel or bladder perforation at the top of the physician's differential diagnosis and should be addressed emergently.

Hemoglobin and hematocrit measure red blood cells. Hemoglobin is the protein that carries oxygen to tissues, and hematocrit is the volume of red blood cells compared to total blood volume. Low hemoglobin or hematocrit measures signal anemia, which may indicate undiagnosed internal bleeding.

Postoperative X-rays

Postoperative X-rays can often reveal numerous problems. A standing chest or abdominal X-ray can demonstrate the presence of "free air" in the peritoneum, the cavity that contains the stomach, liver, bowel, colon, and bladder and in women, the uterus, fallopian tubes, and ovaries. The presence of air in the peritoneum is a pneumoperitoneum and it often indicates a critical illness.

Some small residual air collections can persist following a laparoscopic procedure because gas is injected into the peritoneum during the procedure, but it typically dissipates over approximately 24 hours.⁵ Small amounts of air can also follow an open surgical procedure. However, air can collect as a byproduct of peritonitis or ingested air that leaks out of a bowel perforation. Serial X-rays can demonstrate whether air is increasing or decreasing in volume. Increasing air is a sign of infection and should be investigated.6

An X-ray can also show fluid in the peritoneum, which should not appear outside the stomach, bowel, or bladder.7 The presence of fluid indicates a perforation in the bowel or bladder, a leak from an anastomosis (a surgical connection of tubular structures such as bowel), or a bile leak.

Where the claim is a failure to diagnose a postoperative infection or bowel or bladder perforation, postoperative X-rays are often crucial evidence. Were such X-rays taken at all? Were the right X-rays taken? Were they timely? Were serial X-rays taken to compare the results over time? Were X-ray findings ignored? Were postoperative X-rays properly interpreted? These are all questions you should consider.

'Abnormal' Biliary Anatomy

The gallbladder is part of the biliary anatomy. It takes bile from the liver and releases it into the small bowel to process food from the stomach. It is a small balloon-shaped structure that acts as a reservoir for bile and regulates its release. The two lobes of the liver drain bile through the right and left hepatic ducts, which join to form the common hepatic duct. The gallbladder is usually connected to the common hepatic duct, and the exiting structure is the common bile duct.

However, between 20 percent and 75 percent of people have one of several anatomical variations.8 The gallbladder may be on the right or left hepatic duct. It can have an unusually short cystic duct or one of many other variations. This can lead to potential complications in gallbladder surgery. If the operative report notes an aberrant anatomy, it should be a red flag.

Most gallbladder surgery is now done laparoscopically.9 A laparoscopic cholecystectomy, or lap chole, presents technical challenges for the general surgeon. A less than careful surgeon can misidentify the biliary structure by confusing the cystic and hepatic ducts or other structures. Misidentification of the structure is almost always a breach of the standard of care.

If the wrong structure is surgically severed and is identified intraoperatively, biliary reconstruction, or stenting, will be necessary. A lap chole operative report that references either procedure indicates a mistake.

In most cases where the wrong structure has been cut or clipped, the problem isn't identified until after the damage occurs, and bile draining into the abdomen usually causes infectious peritonitis. Then, the patient may present other signs and symptoms discussed here.

Postoperative Ileus

A bowel obstruction can be either mechanical or nonmechanical. A mechanical obstruction can be caused by a kinked bowel or a loop of bowel that is bound by scar tissue, known as adhesions. A nonmechanical obstruction is known as an ileus, which can be caused by a dead section of bowel (necrotic bowel), or an ischemic bowel, meaning a bowel that has reduced or no blood flow. Either way, a bowel obstruction is an emergent presentation. Postoperative ileus can occur without any negligence, but it also may result from injury to the bowel, such as a perforation. Slow or absent bowel function often is an early sign of bowel perforation. Delayed diagnosis can result in infection and peritonitis.

Unusually Long or Short **Operative Times**

Every operative procedure includes several records in addition to the surgeon's dictated operative report. Both the nursing and the anesthesiology records should contain time notations: when the patient was prepped, when the patient was in the operating room, when anesthesia started, when the procedure began, when the procedure ended, when the anesthesia stopped, and when the patient left the operating room.

An unusually long procedure time or a long delay between stages of the procedure may mean that problems occurred. A detailed review of the patient's vitals recorded by the anesthesiologist and a comparison of the anesthesiology notes to the surgeon's operative notes may reveal inconsistencies.

Also, unusually long operative procedures can include nursing shift changes or nursing meal breaks. Beware of these because problems can and do occur with shift changes, where a different circulating or scrub nurse may finish a procedure than the one who started it. In that case, be suspicious of the validity of sponge and instrument counts.

Unusually short operative times can indicate that a procedure was rushed, or that the surgeon was not present for all of the procedure. I have had cases where the surgeon had two or even three operating rooms reserved at once and had different teams set up in each room. A resident or nurse practitioner would handle prepping a patient or even doing the initial opening incisions, while the surgeon was finishing another case in an adjoining operating room. By going from room to room, he was spending only a few minutes actually handling each operation and thus was not available to properly identify problems.

While a shorter operative time is often beneficial to a patient's recovery, confirm with an expert in the field whether the timing is suspicious.

► Abscess or Infection

A diagnosed postoperative abscess or infection should be investigated if the damage appears to warrant a case. A relatively quick recovery with limited intervention probably will not constitute a case, while a situation involving death or multiple surgical procedures, long hospital stays, and extensive care likely will do so. While every patient will likely execute a consent form that identifies infection as a risk, that doesn't rule out negligence.

Factors to consider in evaluating a diagnosed postoperative infection:

- How long between onset of symptoms and diagnosis did the infection occur? The longer the delay, the more likely you have a viable case.
- Was an infection diagnosed but definitive treatment delayed? It seems incongruous that this would occur, but it does, and all too often. What some doctors choose to call

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"watchful waiting" is, in many cases, negligence. Were appropriate consults obtained? Did the surgeon undertake care of the infection without an infectious disease consult? Few surgeons are sufficiently qualified to treat a complex infectious process without assistance. Prescribing the wrong antibiotic treatment can actually cause harm.

 Was there appropriate surgical intervention? Surgical treatment of infections and abscesses can range from exploratory laparotomy for abdominal processes to serial incision and drainage to remove the infection.

Return to OR

Any return to the operating room following a general surgical procedure should be closely examined. You have to determine why the patient was returned to the operating room. If the original surgeon was the only surgeon involved in the follow-up surgery, the recorded operative findings from the second surgery should be viewed with substantial suspicion. Compare the findings from the second surgery with pathology reports from either surgery and with the signs and symptoms recorded by other doctors and nurses.

Return to Hospital

Most basic procedures, such as hernia repairs and gallbladder surgery, are done on an outpatient basis today.10 Most patients are discharged within a few hours of coming out of anesthesia. When patients must return to the hospital, it is usually a bad sign.

Most careful physicians treat returns as a red flag. A patient who is ultimately diagnosed with a postoperative complication who returned to the hospital in the first 72 hours following surgery and whose complaints weren't addressed has the elements of a failure-to-diagnose case.

► Abnormal Postoperative Pain

Some degree of postoperative pain is normal. What constitutes normal for a given procedure and patient varies. But reports of pain that began after surgery, persist despite pain medications or disappear only in response to large quantities of pain medication, or seem unusual for the type of procedure, should be a red flag for your client's doctors and for you.

Abdominal pain following a general surgical procedure should always be investigated. Some descriptions of abdominal pain are textbook indications of peritonitis, an infection in the abdominal cavity.11 A rigid or hard abdomen and pain upon rebound after palpation of the abdomen is a clear sign of a "surgical belly," meaning an abdomen that needs to be surgically explored.12 However, the goal is to diagnose an infection before it becomes a surgical belly. Once a surgical belly is found, the patient has a serious infection.

Pathology

With few exceptions, any tissue removed by a surgeon during a procedure should be sent to pathology and reviewed. That review may be intraoperative in cases where the surgeon needs to determine what he or she has found. For example, where cancer is suspected, the tissue or organ will be sent to pathology for a "frozen section" in which the pathologist will examine the tissue while the patient is in the OR. Where cancer is not an issue, the pathology review is usually done after the surgery is completed and the results reported to the surgeon.

In either case, a pathologist will issue a report that should include the gross examination, meaning the normal

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visual review, and usually a microscopic examination of the tissue.13 The pathology report should identify and confirm the tissue removed, identify any aberrant anatomy, and detail any findings such as ischemia, endometriosis, obstruction, injury to the structure, or anything else outside the norm.

In any general surgical case in which you suspect malpractice, you should closely compare the pathology report to the operative report and note any inconsistencies. Are the structures the surgeon indicates he or she removed described by pathology? Are the pathologist's findings consistent with the surgeon's stated operative findings?

Beyond these 10 red flags, death is an obvious red flag. If death occurs in an otherwise normal procedure, you should closely examine all aspects of the case. What were the patient's preoperative comorbidities? Were they addressed by the surgeon and anesthesiologist? Is the death the result of any abnormal occurrence mentioned in the operative record? The anesthesiology records should be reviewed minute by minute. Were changes in vitals addressed promptly and appropriately?

While death is a "known risk" of any surgical procedure, it shouldn't happen often14: If the patient had a relatively routine procedure and was of an age and state of health so that death came as a surprise to the surviving family, the situation should be examined closely.

This article touches on only a few issues related to general surgical cases. The question of whether the injury supports a case is always an issue that must be considered. But in evaluating liability, at least some of these signs, symptoms, and occurrences will be present in nearly every successful general surgical case. Investigating these in greater detail will allow attorneys to pursue claims and achieve justice for victims of general surgical malpractice and their families.

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Notes

- 1. If you are considering a general surgical malpractice case and it is your first medical malpractice claim, I urge you to cocounsel with an experienced medical malpractice attorney who can help you navigate the minefields presented by these complex cases.
- 2. Mayo Clinic, Complete Blood Count (CBC): Results, www.mayoclinic.com/health/ complete-blood-count/MY00476.
- 3. See generally MedicineNet.com, Definition of White Blood Cell, www.medterms.com/ script/main/art.asp?articlekey=6017.
- 4. MedlinePlus, BUN-Blood Test, www.nlm.nih. gov/medlineplus/ency/article/003474.htm.
- 5. See David B. Toub et al., Resolution of Free Intraperitoneal Air After Laparoscopy: Utility of Abdominal Radiography in the Diagnosis of Bowel Injury, 1 J. Am. Assn. Gynecologic Laparoscopists S37 (Aug. 1994).
- 6. See Joseph S. Solomkin et al., Diagnosis and Management of Complicated Intraabdominal Infection in Adults and Children: Guidelines by the Surgical Infection Society and the Infectious Diseases Society of America, 50 Clinical Infectious Diseases 133 (2011), http://cid.oxfordjournals.org/

- content/50/2/133.full.
- 7. See generally Rahil Shah et al., Ascites, http://emedicine.medscape.com/article/ 170907-overview.
- 8. Mary Ann Turner & Ann S. Fulcher, The Cystic Duct: Normal Anatomy and Disease Processes, 21 RadioGraphics 3, 7 (Jan.-Feb. 2001).
- 9. MedlinePlus, Gallbladder Removal— Laparascopic, www.nlm.nih.gov/medline plus/ency/article/007371.htm.
- 10. See Press Release, Ctrs. for Disease Control & Prevention, U.S. Outpatient Surgeries on the Rise (Jan. 28, 2009), www.cdc.gov/ media/pressrel/2009/r090128.htm.
- 11. Mayo Clinic, Peritonitis, www.mayoclinic. com/health/peritonitis/ds00990/dsection= symptoms.
- 12. PubMed Health, Peritonitis, www.ncbi.nlm. nih.gov/pubmedhealth/PMH0002311.
- 13. College of Am. Pathologists, MyBiopsy.org, How to Read Your Pathology Report, www. cap.org/apps/docs/reference/myBiopsy/ pathology_report.html.
- 14. RightDiagnosis.com, Statistics About Surgical Errors/Complications, www. rightdiagnosis.com/s/surgical_errors_ complications/stats.htm.



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