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Laparoscopic Cholecystectomy

In terms of raw numbers, there probably are more experts on the performance of laparoscopic cholecystectomy than on any other minimally invasive procedure. Just about every general surgeon does this procedure, does it a lot, and most do it very well. So we will not make an obnoxious claim that we are the *übermensch* of laparoscopic cholecystectomy. What we can provide in this chapter is our perspective, which has been generated after performing many of these procedures ourselves, and by reading and listening to what others have said and written about the technical aspects of laparoscopic cholecystectomy.

The transition from open to laparoscopic cholecystectomy that occurred during the early 1990s stands as a glaring example of how *not* to introduce a new technology. The proliferation of ductal injuries that ensued from this transition was overshadowed only by the eagerness of the media and medicolegal elements to publicize and prosecute these events. We in the surgical community have no one to blame but ourselves for this unfortunate chapter in the history of minimally invasive surgery. The rush to embrace the new technology simply was too hasty and ill conceived. Be that as it may, the transition to laparoscopic cholecystectomy was completed quickly, and the issue of common bile duct injury now is under somewhat better control, although not eliminated.

We believe that a safe dissection is paramount in the performance of laparoscopic cholecystectomy, and we will describe in detail the technical maneuvers we perform to accomplish such a dissection. Other surgeons may emphasize reliance on intraoperative cholangiography to attain the same information that we like to obtain with dissection. This issue of routine versus selective intraoperative cholangiography has been debated over and over again in the literature. We will not regurgitate this debate in this chapter, but simply acknowledge that it exists and that there are multiple approaches to the performance of a safe laparoscopic cholecystectomy.

OPERATIVE INDICATIONS

The indication for cholecystectomy in the vast majority of patients is symptomatic gallstones. This indication covers a spectrum of clinical manifestations, from occasional attacks of biliary colic to gangrenous cholecystitis to gallstone pancreatitis. If the patient has symptoms from gallstones and has no absolute

contraindications to an operation under general anesthesia, then laparoscopic cholecystectomy generally is indicated. Nonoperative treatment of gallstones (e.g., oral bile acids or shock wave lithotripsy) has limited efficacy. Routine removal of a gallbladder for asymptomatic cholelithiasis is more controversial, but may be a reasonable treatment alternative in a patient with one or more of the following characteristics: “porcelain” (i.e., calcified) gallbladder; gallbladder mass or polyp; young age; diabetes mellitus; organ transplant; sickle cell anemia; and others (the list is growing). Incidental cholecystectomy for asymptomatic cholelithiasis also may be a reasonable option during a bariatric or other gastrointestinal procedure.

The timing of cholecystectomy to treat acute cholecystitis is controversial; there is a wealth of retrospective data to support immediate cholecystectomy, delayed operation months later, and everything in between. There is no doubt that removal of an acutely inflamed gallbladder is more difficult than removal of a noninflamed gallbladder, but as many authors have demonstrated, this can be accomplished without an increased incidence of complications. Our own preference is to treat a patient with acute cholecystitis medically (IV fluids, antibiotics, bowel rest, pain relief) for up to 1 week, and then remove the gallbladder under “subacute” conditions. If the patient worsens during the first 24 to 48 hours of this treatment, then an emergency cholecystectomy would be indicated. If a patient has gangrenous cholecystitis with severe inflammation that has made dissection in the region of the porta hepatis particularly hazardous, then laparoscopic partial cholecystectomy with drainage is a treatment option.

The timing of cholecystectomy in association with gallstone pancreatitis also is somewhat controversial. For the critically ill patient who has extensive pancreatic necrosis, early laparoscopic cholecystectomy generally is dangerous and not useful; the damage already has been done. For the patient with mild, mostly laboratory-based pancreatitis, early cholecystectomy is more reasonable. The difficulty in timing the gallbladder removal is with the patients who fall in between these two extremes. In general, we guide our decision based on the clinical stability of the patient; we prefer to perform laparoscopic cholecystectomy for gallstone pancreatitis electively on a patient whose disease status is quiescent or markedly improved.

Occasionally a patient is referred for treatment of biliary colic, but the patient has no gallstones. In this situation a careful