

Pros and cons of treatment options for gallbladder disease

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More than 25 million Americans have gallstones, and each year about 1 million new cases are diagnosed. Each year about 1.8 million people develop abdominal pain as a result of gallstones and go see a doctor about it. About 40 percent of these, more than 725,000 people a year, ultimately have surgery to resolve the problem.

A new review article, published in the July 23, 2015 issue of *The New England Journal of Medicine*, analyzes the pros and cons of five different interventional approaches to gallbladder disease.

Todd H. Baron, MD, Professor and Director of Advanced Endoscopy in the Division of Gastroenterology and Hepatology in the University of North Carolina School of Medicine, is lead author of the article.

"With the recent technological advances in endoscopic treatments for symptomatic gallbladder disease, we believed that it was important to communicate the potential for recently developed means for managing this common disease to the broader medical community," Baron said.

Co-authors of the article are Ian S. Grimm, MD, Professor and Director of GI Procedures at UNC; and Lee L. Swanstrom, MD, of the Oregon Clinic in Portland, Oregon.

The most common intervention in use today is laparoscopic cholecystectomy, a surgical removal of the gallbladder using minimally invasive laparoscopic techniques. This approach was introduced in 1985

as an alternative to traditional open surgery, which is still required in a small number of cases. The advantages of the [laparoscopic approach](#) include little or no visible scarring, but it is sometimes technically difficult to perform in patients with severe cholecystitis or prior abdominal surgery.

A more recently developed surgical technique is natural orifice transluminal endoscopic surgery, or NOTES. In NOTES, the surgeon accesses the gallbladder by using an endoscope that enters the body through a naturally occurring opening such as the mouth, vagina or anus. A major advantage to this approach is that it requires no incision, but it requires special equipment and is technically very difficult, and for those reasons is available at only a few select medical centers.

Percutaneous cholecystostomy is another option available for patients who are not suitable candidates for the laparoscopic approach. In this technique, a pigtail catheter is placed through the abdominal wall directly into the gallbladder to allow for drainage of bile through the tube and outside the body. This approach is effective in resolving cholecystitis for about 90 percent of patients who receive it, but the external drainage tubes are uncomfortable for patients, which can have a detrimental effect on their quality of life.

Endoscopic procedures for drainage of the gallbladder can also be performed via oral, upper endoscopic techniques, using either the transpapillary route or the transmural route. In both cases, bile drains from the gallbladder directly into the patient's gastrointestinal tract where it functions principally as an aid to digestion. Both of these approaches eliminate the problems associated with external drainage tubes, and with the loss of bile, fluid, and electrolytes. The transpapillary approach has been feasible for years, but it is technically difficult and thus is not widely used.

The most recent minimally invasive approach to treatment of gallstone disease is the endoscopic transmural drainage approach. Performed primarily by gastroenterologists, this approach utilizes endoscopic ultrasound guidance to puncture the gallbladder through the stomach or duodenum. A self-expandable metal stent is then deployed to maintain internal bile drainage. Placement of newly developed large diameter stents also allows for the endoscopic extraction of gallstones, in selected cases. Together, Drs. Baron - who came to UNC from the Mayo Clinic in 2014 - and Dr. Grimm have performed endoscopic transmural gallbladder drainage in about 20 patients over the past year.

The transmural approach is not yet widely available, and long-term and comparative outcome data to other approaches are needed, but Drs Baron and Grimm anticipate significant potential for growth in this area as the technology continues to evolve, and performing the technique becomes both easier and faster.

This transmural approach is exciting and offers an internal, nonoperative approach to the treatment of [gallbladder](#) disease in patients who are considered non-surgical candidates, It is especially attractive for those patients who might otherwise be treated with percutaneous drainage, since external tubes commonly become dislodged and have a negative impact on quality of life.

Provided by University of North Carolina Health Care

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