

DEBATES IN CLINICAL SURGERY

Simmons
Udekwa



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Volume 2



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PREFACE

An idealist is one who, on noticing that a rose smells better than a cabbage, concludes that it will also make better soup.

H.L. Mencken

The varied interpretations of scientific “truth” and, consequently, divergent clinical approaches to disease, tether surgery firmly in its classification as an art as well as a science. The second volume of *Debates in Clinical Surgery* draws from surgical masters their strongly felt (and frequently strongly worded) views of a variety of problems central to general surgical practice. Many of these debates are timeless questions, having been inconclusively answered in the past and undoubtedly likely to be asked again in the future. The current debates are unique in terms of providing the “truth” for our present day clinical application. Each debate and its protagonists were carefully selected to enhance the reader’s critical understanding of the body of surgical science pertaining to a specific question generated by a real clinical situation, morbidity and mortality review, or consultation request.

Hopefully these debates will help the reader develop an in-depth understanding of the body of knowledge lying behind current (and future) therapies directed to the solution of frequently encountered controversial areas of surgical disease.

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Richard L. Simmons, M.D.
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Cholecystectomy Remains the Gold Standard
for the Treatment of Cholelithiasis

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CHOLECYSTECTOMY

Cholecystectomy Remains the Gold Standard for the Treatment of Cholelithiasis

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Cholecystectomy Remains the Gold Standard for the Treatment of Cholelithiasis

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Gallstones remain a major health problem in the developed world. It is estimated that over 20 million people in the United States are affected, with the prevalence variably estimated between 12% and 20%. Ten thousand deaths are attributed to calculous biliary tract disease annually. Five hundred thousand cholecystectomies are performed each year in this country. Direct costs of therapy for cholelithiasis exceed \$5 billion annually with additional indirect costs that are difficult to estimate. Most surgeons would agree that cholelithiasis constitutes the major non-neoplastic disease requiring surgical intervention. It is perhaps inevitable that such a treasure trove of clinical material should become the target of the development of alternative methods of treatment that pander to the public philosophy of "less is more" when applied to invasive therapy. These alternatives are touted for the most part by nonsurgeons with limited experience in the treatment of gallstones and an often narrow perspective of the natural history of calculous biliary tract disease. These constraints have not slowed the application of these innovations to general clinical practice appreciably, largely due to their uncritical acceptance by many practitioners. The purpose of this review is to define the current status of alternative forms of therapy for cholelithiasis and to contrast their results with traditional surgical therapy.

Cholecystectomy

Over a century has passed since the first cholecystectomy was performed by Langenbuch of Berlin. Advances in technique, anesthesia, and critical care have made safe cholecystectomy possible in the overwhelming majority of clinical situations. Few methods of therapy for any disease yield as gratifying a result as does cholecystectomy for symptomatic cholelithiasis. Patterns of morbidity and mortality following biliary tract operations have evolved from the dominance of advanced hepatobiliary disease and surgical/anesthetic misadventure reported by Heuer in 1934¹ to the present predominantly cardiovascular disease-related mortality.² The mortality rate has decreased from 6.6% in Heuer's review of 36,623 cases operated upon prior to 1934 to 1.7% in our most recent review of the ex-

perience at the New York Hospital-Cornell Medical Center.³ This consistent pattern of decreasing mortality over the years has occurred despite the increasing age of the patients cared for surgically. We have experienced only 38 deaths among 8,910 patients undergoing cholecystectomy for chronic cholecystitis performed between 1932 and 1984 (0.4%). During the last 6 years of this period 1,693 cholecystectomies were performed with only 3 deaths (0.2%). With proper patient selection, 90% to 95% of patients are completely (and permanently) relieved of their abdominal symptoms after cholecystectomy. Total costs, including professional fees, are in the range of \$8,000 to \$10,000 in the absence of complications. A conscious effort to contain costs can result in even lower figures.⁴ Most patients can be discharged after 3 days and, in many cases, can return to work in 3 to 4 weeks. Our favorable experience with cholecystectomy is not unique. Two series (those of Meyer et al.⁵ and DeMarco et al.⁶) published over 20 years ago reported mortality rates below 1% in unselected patient populations. Results from the 1980s are even more impressive; Ganey et al.⁷ reported 801 consecutive cholecystectomies without a single death. A recent report of the experience at the Virginia Mason Clinic⁸ by Gilliland and Traverso details 671 cholecystectomies with a 0% mortality and a 2.2% procedure-related morbidity. Symptomatic relief was obtained in 88% of their patients. To become viable alternatives to cholecystectomy, new approaches must be competitive when the real arbiters of utility are applied, namely efficacy, morbidity, mortality, and cost.

Dissolution Therapy

The concept of dissolution therapy for cholelithiasis is not new. In vitro gallstone dissolution was first described by Durande in the late 18th century. The successful dissolution of bile duct calculi by an infusion of ether and turpentine through an external biliary fistula was described by Hawker in 1897. Animal experiments by Probst and Eckert in 1937 using chloroform and ether infusions through a T tube were effective but highly toxic, uniformly resulting in death. These problems limited human application of dissolution therapy until recently. At the present time, dissolution therapy consists of either oral ursodeoxycholate with or without biliary lithotripsy, or contact dissolution using methyl tert-butyl ether.

Initial clinical efforts to achieve oral dissolution of cholesterol stones utilized chenodeoxycholate, which was introduced in 1971. The results of the National Cooperative Gallstone Study published in 1981⁹ (a randomized prospective control study) demonstrated a disappointing low success rate of 8% (50 of 611 patients). Ursodeoxycholate, the 7 β -epimer of chenodeoxycholate, is the bile acid currently used clinically for the oral dissolution of gallstones. This agent is generally well tolerated (5% of patients develop side effects of diarrhea or hepatic dysfunction), but suffers the limitations of