

PROBLEMS IN GENERAL SURGERY

JACK PICKLEMAN, M.D.



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FOREWORD

All around us, in this age of consumerism, are expressions of public expectations regarding the quality of medical care. Among the responses of the medical profession to this growing public demand has been a crescendo of interest in continuing education. Continuing education is not a new concern for the physician. Most major professional organizations were founded to increase the exchange of information among members.

But something new is in the wind. Both inside and outside the profession, the question is becoming more and more insistent: What does attendance at meetings or exposure to other types of prepared materials have to do with the quality of care that is provided? Recertification, reexamination, and peer review of outcomes of practice—subjects only recently unmentionable—have become common issues before specialty boards, legislatures, hospital boards, insurance carriers, and even medical societies. As of October of 1979, all 22 of the member boards of the American Board of Medical Specialties had made commitments to the principle of periodic recertification of their members. Most boards have explicitly acknowledged that the cognitive skills measured in the objective examination do not assure clinical competence. An assumption behind information-assessing recertification efforts is that, though mastery of the current knowledge upon which clinical decisions should be made does not guarantee competent practice, the lack of it probably impairs competent practice.

The immense cost of postgraduate courses and national conventions and conferences is, of course, passed on to the patient; a cost-conscious public someday may ask for evidence that the costs of these meetings are defensible business expenses with some measurable value. When the cost of these continuing education programs—travel and hotel expenses, fees, program production costs, and time lost from productive practice each year—are added to the other high costs of doing business for the practicing physician, the public may demand evidence that such activities improve the physician's care of his patients. Considering the money and effort invested in these programs, it seems surprising that so little evidence of their value can be found.

But is it surprising? Consider what is known about human learning. A body of research has been accumulating over the past four or five decades, much of which seems to lead to certain evidence about the characteristics of efficient learning experiences in adults. An analysis of this evidence would lead the dispassionate observer to conclude that, as typically conducted, continuing education programs ought to be inefficient learning experiences giving rise to very little change in the behavior of the passive audiences.

Efficient learning takes place in response to specific, perceived need, not in anticipation of need. It requires active involvement of the learner. The learner must have an opportunity to practice what he would learn; similarly, he will learn the skills he practices. Without early application of new knowledge to real problems in the natural setting, very little will be retained.

Can we easily reconcile the profession's long-felt need to upgrade itself and society's newly enunciated need for quality assurance with the best existing evidence on the learning process? The learning for which we should strive should not be an episodic escape from daily professional activity but an integral part of it. It should be oriented to realistic clinical problems and be carried out in the setting in which such problems need to be solved, using the tools and resources that are part of the clinician's usual environment.

This series is an approach to continuing education of surgeons with methods designed in accord with good learning experiences. It is problem-oriented, as is life. It can be carried out at the learner's own pace, it provides immediate feedback of the correct or preferred responses, an informative resume of the rationale for the answer, and some references for the learner to increase his understanding of the subject matter should he desire or need to do so.

We acknowledge that these efforts do not measure clinical competence. The assumptions behind the project are that awareness of current information upon which good clinical decisions should be made is worth cultivating and that this facility, unlike technical skills, is reasonably easy to assess and can be acquired by a motivated surgeon. These assumptions seem reasonable.

In this series the authors structure their volumes around the significant generalizations that they believe epitomize the most important concepts in a given surgical area. For each of these generalizations, a series of questions is constructed or a representative clinical problem developed that requires mastery of the fundamental concepts for solution. A critical analysis of the problems is presented, which provides the background information required for solution, including discussion of the misunderstandings that might have led to selection of distractor responses.

This series, then, provides the surgeon with a method of learning by solving problems. The success of this approach depends not simply on the acquisition and analysis of information, but rather on the application of this new information to the care of patients.

Thomas C. King, M.D.
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New York, New York

PREFACE

This book represents an attempt to discuss current surgical knowledge in a problem-solving format. It is not intended to be a complete text of general surgery, but rather to deal with areas of controversy and clinical importance to the practicing surgeon. It is not anticipated that each reader will desire to work through all of the problems, merely those with which he feels less secure. It is hoped that the problem-solving format and the immediate feedback it provides will educate, entertain, and stimulate the participant to read further from the quoted references.

The work represents the thinking and practice of one general surgeon and, as such, not all will agree with the reasoning and the judgments that are put forth. This is healthy, for the practice of surgery grows by analysis and discussion of our differences, and this too can be a learning experience.

Finally, I want to express my gratitude to my secretaries, Ms. Linda Schultz and Ms. Sally Blangin, who prepared many drafts of the manuscript and who above all spurred me on when the project seemed to be flagging.

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Maywood, Illinois

A note on units. Throughout the book, blood pressure is measured in millimeters of mercury, pulse rate is measured in beats/minute, and respiration rate is measured in breaths/minute.

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ESOPHAGUS

1.1. A 46-year-old woman has had persistent heartburn and a feeling of acid regurgitation for 6 years, only partially controlled by antacids. She gives a 3-month history of progressive dysphagia and a feeling of food sticking in her throat substernally. An upper GI tract X ray series is performed and is shown as Figures 1-1 and 1-2. Esophagoscopy reveals a stricture in the distal esophagus, biopsy discloses only inflammatory tissue. Treatment should consist of:

- A. Bougie dilatation.
- B. Antireflux procedure.
- C. Weight loss and cimetidine.
- D. Dilatation and antireflux procedure.
- E. Esophageal resection with colon interposition.



Figure 1-1

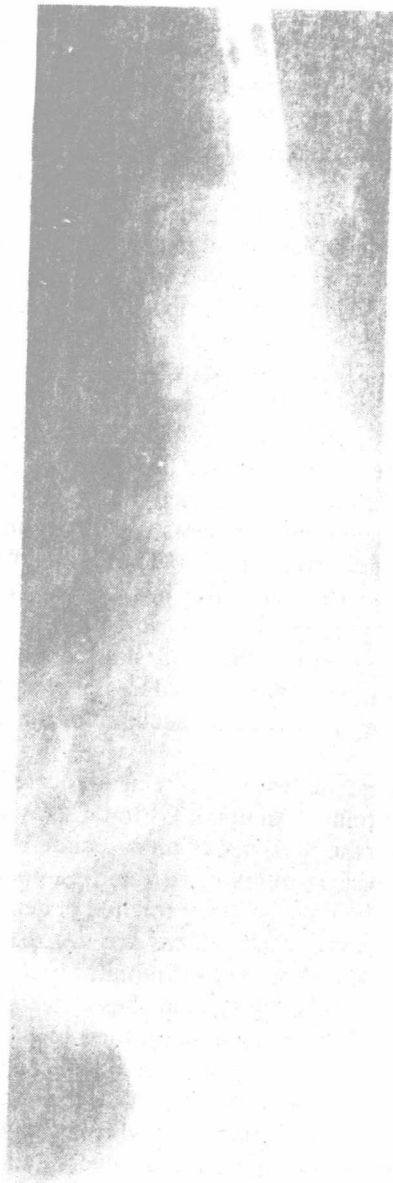


Figure 1-2

This patient has a small hiatus hernia with long-standing reflux that has progressed to an esophageal stricture. The biopsy discloses only inflammatory tissue, and although this does not absolutely rule out the possibility of a coexistent malignancy, it renders this possibility far less likely. This circumstance represents an end stage of esophageal reflux and surely could have been prevented by earlier operative treatment of this patient.

Uncontrolled reflux esophagitis can lead to other complications besides stricture. Mucosa in the injured area may be replaced by columnar epithelium (Barrett's esophagus), and there is some indication that this represents a premalignant lesion. Bleeding from an area of esophagitis is not uncommon, either in an occult fashion or presenting as a massive upper GI tract hemorrhage. Aspiration into the lungs can also occur, although probably not as frequently as thought in the past. Using very rigid criteria for the diagnosis of aspiration, one series demonstrated that only 8% of patients with reflux sustained this complication.¹

At the outset, it should be understood that reflux can occur with or without the presence of an associated hiatus hernia. Therefore, treatment of patients with hiatus hernia is carried out only for those who manifest evidence of esophageal reflux. Patients with an asymptomatic hiatus hernia should not be operatively treated. The cause of reflux has been definitely established to be a decrease in the lower esophageal sphincter pressure. Using esophageal manometric techniques, nearly all patients with significant esophageal reflux will show abnormally low pressures which are raised by antireflux procedures. It has been suggested that decreased endogenous gastrin might account for this decrease in sphincter pressure.²

Numerous diagnostic tests have been advocated to confirm the presence of esophageal reflux. An upper GI tract X ray with cineradiography will often determine the presence of an associated hiatus hernia, but will often miss the retrograde reflux of barium. Esophagoscopy with biopsy is considered to be the most accurate method of determining the presence of esophagitis. However, other means are utilized to test for sphincter incompetence. An indwelling acid pH monitor in the distal esophagus will accurately document acid reflux, and these episodes can be correlated with the patient's symptoms. A modification of this test (Bernstein test) instills dilute hydrochloric acid into the distal esophagus along with saline control instillations, and the patient's responses are noted. An acid clearing test has been advocated, in which a given amount of acid is cleared by sequential swallowing maneuvers, and the time taken for the disappearance of symptoms and the return of pH to normal is noted. Many authorities consider this the single best test for sphincter incompetence.^{3,4}

The majority of patients with esophageal reflux can be helped with nonoperative therapy alone. Many of these patients are obese, and it has been found that weight loss alone can alleviate many of the reflux symptoms. Elevating the head of the bed and avoiding tight-fitting garments such as girdles are also beneficial steps. If the patient is a cigarette smoker, cessation of smoking can likewise bring about improvement in symptoms. Numerous medicines have been advocated, and of these, antacids are uniformly beneficial.⁵ Bethanechol, an anticholinergic drug, has likewise been utilized to increase lower esophageal sphincter pressure and decrease reflux.^{5,6} Metoclopramide also increases lower esophageal sphincter pressure, increases acid clearing from the distal esophagus, and can lead to a decrease in reflux symptoms.^{5,7,8}

The operative treatment of hiatus hernia with reflux has enjoyed a resurgence of respect since it has been discovered that the etiologic problem to be solved is the incompetent lower esophageal sphincter and not necessarily the position of the gastroesophageal junction itself. Surely, earlier attempts at hiatus hernia repair were often unsuccessful, with recurrent or persistent symptoms the rule rather than the exception. Currently, three operations are known to be effective: the Nissen, Belsey, and Hill repairs.⁹⁻¹¹ In expert hands, these three operations have demonstrated roughly equal results, with greater than 90% of patients benefitted. Following surgery, measurements of lower esophageal sphincter pressure have been carried out and uniformly demonstrate significant increases that parallel the cessation of reflux symptoms. The Nissen procedure has been the one used most extensively in this country, and therefore has been subjected to the most critical review. One problem following this operation is that as many as 50% of patients cannot vomit afterwards.¹² Another complication following this procedure has been the gas bloat syndrome, which is seen in as many as 50% of patients initially, but decreases to about 10% on long-term follow-up.⁹ Also, dehiscence of the Nissen repair and slippage of the repair down around the body of the stomach have been described, as have postoperative gastric dilatation and inadvertant vagotomy.^{13,14}

In the patient presented, esophageal dilatation alone would not be expected to bring about any lasting relief, as the underlying reflux would not be benefitted. Likewise, the mere performance of an antireflux procedure alone would leave the patient unable to swallow. The combination of these two has been shown to bring about complete relief in most patients, and more radical procedures such as esophageal resection have been unnecessary.¹⁵⁻¹⁷

ANSWER: D.