The single most frustrating problem in the management of Crohn's disease is the stubborn incurability of the condition. Nobody expects medical therapy to effect a permanent cure of Crohn's disease, but even among the 70% of all patients who ultimately come to surgery, the overwhelming majority will ultimately experience a recurrence of their disease. For those whose original disease was ileitis, recurrent disease almost invariably appears just proximal to the ileocolonic anastomosis; for those with initial colitis or ileocolitis, recurrence develops on either or both sides of the anastomosis (15). Although this tendency to postoperative recurrence has been recognized for more than half a century since the early description of the disease by Crohn, Ginzburg, and Oppenheimer (3), confusion and controversy persist regarding the frequencies and risk factors for this unwelcome phenomenon (9,12,26,29).

The sources of uncertainty about the problem of postoperative recurrence can be grouped into three principal categories.

Definitions of Recurrence

The first category comprises different definitions of the term, "recurrence." If, for example, the criterion of recurrence is the finding of endoscopic lesions at the anastomosis, then "recurrence" is rapid and nearly universal, affecting over 70% of patients within one year and 85% by three years (24,25). If, by contrast, recurrence is equated with reoperation, then "recurrence" will be much slower and less frequent, reaching only 25-30% by five years, and 40-50% after 20 years of postoperative followup (2,19). Most current studies have adopted a clinical definition of recurrence (11), less sensitive than the endoscopic criterion but more sensitive than the requirement for reoperation. This clinical definition refers to the return of symptoms proven radiologically, endoscopically, and/or pathologically to be attributable to the reappearance of Crohn's disease. Irrespective of theoretical arguments over whether such reappearance of disease is truly a fresh "recurrence" or merely a "re-exacerbation" of preexisting pathology, a
surgically rehabilitated patient may once again fall ill as a result of newly demonstrable lesions of Crohn's disease. By this pragmatic definition, the cumulative rates of postoperative recurrence are approximately 20% by two years, 30% by three years, and 40-50% by four years.

Types of Operation

Besides different definitions, the second category of factors contributing to disagreements over postoperative recurrence rates pertains to the type of operation in question. For example, there are differences in the overall frequencies of postoperative recurrence following first resections as opposed to those following subsequent resections. Of all patients undergoing first resections for Crohn's disease, about 45% will ultimately require a second operation; but of those patients having a second operation, only about 25% will come to operation a third time. Those cumulative totals, however, apply to different intervals of postoperative followup, so it is necessary to consider actual rates as well as overall frequencies of postoperative recurrence. Some smaller studies have not demonstrated any differences in recurrence rates following primary or subsequent resection (23), but many larger series have suggested that both clinical recurrences and reoperations occur more rapidly after second resections than after first resections (11,17,19,30).

In any event, no two studies of postoperative recurrence rates can be compared unless they are both referring to the same type of operation, preferably first resection. By the same token, the operations must be comparable in terms of whether they are resections or bypasses (14), or whether they include or exclude operations performed primarily for perianal disease. Moreover, with the advent of strictureplasty, we can anticipate important differences in surgery-free intervals following this conservative procedure compared to the presumably longer surgery-free intervals following conventional resection (28).

Still another example of the influence of type of operation upon postoperative recurrence rate is the crucial difference between anastomosis and ileostomy. Although no one any longer believes the old assertion that Crohn's disease virtually never recurs extensively proximal to an ileostomy following total proctocolectomy (7,16), most studies still confirm the concept that recurrence rates are significantly lower after ileostomy than after anastomosis (8,22,27). It is essential, therefore, to distinguish between series that include ileostomies and those that do not (13).

Statistical Methods

Besides definitions of recurrence and types of operation, the third source of controversy is confusion over statistical methodology. As Lennard-Jones and Stalder first showed in 1967