Surgical Procedures

Historical Three-Stage Approach: Developed by Mayo and Rankin and Brown, this procedure is no longer performed due to the high rate of infection. It consists of first performing a peritoneal lavage and drainage of any abscess with creation of proximal colostomy. This is followed by a second-stage in which the sigmoid colon is resected and an end-to-end anastomosis is created. Lastly, after a few weeks to allow for healing of the anastomosis, the colostomy is reversed.

_Hartmann Procedure:_ This procedure is performed traditionally in the urgent setting of perforation (Hinchey stages 3 and 4), obstruction, or massive bleeding and includes a temporary stoma procedure to eliminate the risk of anastomotic leakage. Although it decreases the risk of subsequent leaks, a second procedure to restore continuity to the colon may be very difficult, and as many as one-third of patients never undergo reversal of their colostomy. First the proximal sigmoid colon is divided at a level above the inflamed tissue, and then the rectum is divided through noninflamed tissue, thus removing the inflammatory mass in between. Next the proximal colon is delivered through a previously marked stoma site and a colostomy is created.

_Harman primary anastomosis with diverting ileostomy:_ This provides an alternative to a colostomy while still limiting the risk of anastomotic leakage and requires only a minor second operation to reverse the ileostomy. Therefore, as in the Hartmann procedure, the proximal sigmoid and rectum are diverted above and below the inflammatory mass, respectively. At this point these ends are anastomosed and a loop ileostomy is created in the right lower quadrant.

_Single-stage management:_ This is the simplest procedure, and consists of resection of the inflammatory region and anastomosis of remaining sigmoid and rectum without any diverting stomies.

On-table colonic lavage may be performed in a minimally contaminated case or in the setting of obstruction where a proper bowel preparation could not be attained; this may allow the creation of a primary anastomosis in non-elective procedures.

References: