Surgical management of ulcerative colitis and Crohn’s disease

Ulcerative colitis :

- Ulcerative colitis (UC): it is an inflammatory process of the colonic mucosa, that always involve the rectum and extends continuously for a variable distance proximally.
- The care of UC patients isn’t done by a single doctor but it’s a multidisciplinary care, where gastroenterologist, GI surgeons, nurses, nutritionist, pharmacist, and pathologist deal with every single patient to decide the best treatment option to each patient in term of their signs, symptoms, physical exam, tests, and endoscopy.
- Patient with UC are at risk of requiring surgery, where 5-10% will present with severe colitis and require urgent intervention.
- Patient who present with severe colitis will need surgery with high rates of mortality and morbidity.
- Even after surgery, there is a chance of recurrence and the patient may need another surgery.

Surgery for patient with ulcerative colitis

- **Emergency surgery** :
  - The patient is either already diagnosed with UC and present with acute attack or not known to have UC and present with symptoms of acute colitis.
  - The symptoms of acute colitis are:
    1. Diarrhea
    2. Abdominal pain
    3. Rectal bleeding
  - The patient will be transferred immediately to the O.R in case of:
    1. Perforation
    2. Shock due to severe hemorrhage
    3. Toxic dilatation of the colon → there is a high risk of perforation.

**Case 1** : a patient not known to have ulcerative colitis, present with acute colitis (abdominal pain, diarrhea, rectal bleeding) or a patient diagnosed with UC presented with acute attack:

1. the patient will be assessed by a gastroenterologist
2. Blood test will be ordered (CBC, Hb, inflammatory markers): to rule out infectious causes of colitis, such as bacterial infection, clostridium difficile, CMV.
3. X-ray: to detect toxic dilation of colon.
4. Endoscopy and biopsy taking: to detect if its ulcerative colitis, crohns, or indeterminant.
5. Prophylaxis to prevent DVT and PE.

If the gastroenterologist rule out other causes of colitis, then he will start the patient on IV steroids (3-5 days).

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**Important concepts**

- The patient can’t be given IV steroids forever.
- Steroids for more than 5 days isn’t beneficial.
- During this period of treatment if the patient complains of shock, perforation or toxic dilation he will need urgent surgery.
- The mortality rate of surgery at time of perforation is very high, up to 60%.

- **At day 3** of steroids if the patient get better, the gastroenterologist either continue with the treatment for 2 more days (day 5 of steroids) or shift treatment for other oral medication.
- **At day 3** of steroids if the patient isn’t getting better then he is less likely to get better, and need to be assessed by a surgeon who need to discuss with the patient that he may need surgery, the option of the surgery and call the stoma nurse to explain the stoma and make sure that the patient isn’t afraid of stoma.
- **At day 5** of steroids if the patient doesn’t get better either he will need surgery or the gastroenterologist will change medical treatment to rescue medication (IV cyclosporine or biological treatment) depending on the patient decision and condition.
- After 5 days of steroids, the patient is malnourished, his immunity is suppressed and may have infections, so the surgeons must decide on a quick operation with a stoma, and then planning for other surgery in the future to reverse the stoma when the patient is stable.
- Surgical options in the emergency cases:
  1. **Proctocolectomy:**
     In this surgery the anus, rectum and colon are removed with end-ileostomy. This operation requires time, associated with high mortality, permanent stoma and pelvic infection, so it’s not recommended in emergency situation.
2. **Subtotal colectomy with end ileostomy**
   In this surgery the colon is removed, while the rectum is left inside with end-ileostomy. The benefit of this surgery that we can get the diagnosis, if its UC, Crohns or indeterminant and decide on a future plan. If the diagnosis was UC, then a restorative surgery can be done when the patient is stable to reverse the stoma. If it was crohns then then we have different options depending on the pathology. The mortality rate of this operation is 3% without perforation. It’s the best option for emergency situations.

- **Elective surgery:**
  - The patient is already diagnosed with UC and under the care of gastroenterologist.

- **Indications of elective surgery:**
  1. Failure of medical treatment to control the disease
  2. The disease is affecting the patient quality of life, he’s always off-work and requiring steroids.
  3. Has extraintestinal manifestations:
     - Resolve with surgery: arthritis, iritis and uveitis.
     - Doesn’t resolve with surgery: sacroiliitis and ankylosing spondylitis.
  4. Malignancy
     - UC patients are at risk of having malignancy, the risk increase after 10 years by 1-2% each year.
     - Patients having pancolitis or sclerosing cholangitis are at risk of malignancy.
     - After 10 years we always do surveillance looking for dysplasia or malignancy.

- **Surgical options in elective situations:**
The patients are stable, off steroids, and may have good nutritional status, so we can do bigger operations at one stage.
  - **Restorative proctocolectomy with ileoanal pouch (ileal pouch anal anastomosis)**
    - In this operation the rectum and colon are removed, and we end up with small bowel and anus, then we bring the small bowel lobe, make it “J” shape, making a pouch and joining the pouch with the anus.
    - The aim of this operation is to get rid of stoma.
    - If the ileum is joined with the anus directly the patient will have continuous bowl movement, so by making a pouch the patient will end up with 5-6 bowl movement each day.
Complication of surgery:
1. Leak or seepage
2. Incontinence
3. Fistula
4. Infertility
5. Strictures
6. B12 and iron deficiency
7. Non-functioning pouch: bleeding, frequent bowl movement, strictures and malignancy. If the pouch is not functioning, we need to remove it and give the patient permanent stoma.

Note: the surgery for UC is curative but the problem is with having stoma or complications.

Surgical management of Crohns disease

Mainly to manage the complications of crohns disease:
1. Stenosis and strictures:
   Due to the chronic inflammation that lead to narrowing and bowl obstruction, so the patient complains of diarrhea, inability to eat and then become malnourished.
2. Fistula
   The fistula could be with the abdominal wall, lobes of bowl, ileum with sigmoid, ileum and vagina, or ileum with uterus.
3. Abscess
4. Perforation

Crohns can affect any part in the GI tract and reoccur after resection, so the surgeon must perform segmental resection and avoid wide resection, because the disease reoccurs, and the patient may need another surgery in the future. If wide resection is done in the first operation the patient will end with short bowl syndrome.
- Segmental resection isn’t the same as tumor resection, you don’t need to remove wide area or lymph nodes.
- The patient’s immunity and nutritional status must be taken in consideration, so for example if the patient is immunocompromised or having sepsis then anastomosis can’t be done, and the patient will end up with stoma.
- In some cases, the patient may have stricture but it cant be removed because the patient will end up with no bowl, so we need to do stricturoplasty.
- There is a relation between smoking and recurrence of crohns, so make sure to tell the patient to stop smoking.