

**Treatment of inflammatory
bowel disease**

- Goals of treatment include resolution of acute inflammatory processes, resolution of attendant complications (e.g., fistulas, abscesses), alleviation of systemic manifestations (e.g., arthritis), maintenance of remission from acute inflammation, or surgical palliation or cure.

- Treatment of IBD centers on agents used to relieve the inflammatory process.
- Salicylates, glucocorticoids, antimicrobials, and immunosuppressive agents are commonly used to treat active disease and, for some agents, to lengthen the time of disease remission.
- In addition to the use of drugs, surgical procedures are sometimes performed when active disease is not adequately controlled or when the required drug dosages pose an unacceptable risk of adverse effects.

NONPHARMACOLOGIC TREATMENT:

Nutritional Support:

- Patients with moderate to severe IBD are often malnourished.
- The nutritional needs of the majority of patients can be adequately addressed with enteral supplementation. Patients who have severe disease may require a course of parenteral nutrition.
- Probiotic formulas have been effective in maintaining remission in ulcerative colitis.

- For ulcerative colitis, colectomy may be performed when the patient has disease uncontrolled by maximum medical therapy or when there are complications of the disease such as colonic perforation, toxic dilatation (megacolon), uncontrolled colonic hemorrhage, or colonic strictures.
- The indications for surgery with Crohn's disease are not as well established as they are for ulcerative colitis, and surgery is usually reserved for the complications of the disease.
- There is a high recurrence rate of Crohn's disease after surgery.

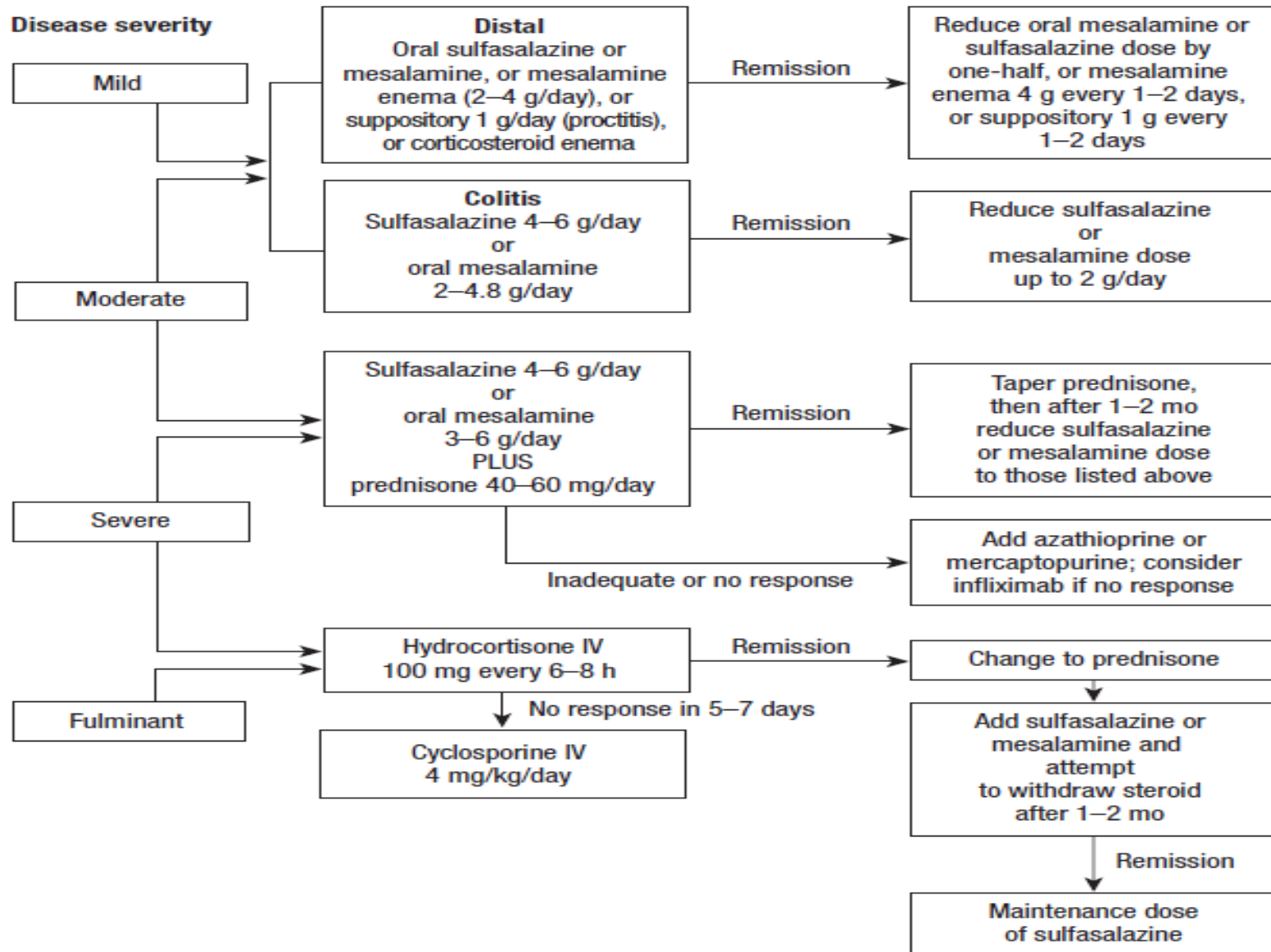
PHARMACOLOGIC THERAPY:

- The major types of drug therapy used in IBD include aminosalicylates, glucocorticoids, immunosuppressive agents (azathioprine, mercaptopurine, cyclosporine, and methotrexate), antimicrobials (metronidazole and ciprofloxacin), and agents to inhibit tumor necrosis factor- α (TNF- α) (anti-TNF- α antibodies).
- Sulfasalazine, an agent that combines a sulfonamide (sulfapyridine) antibiotic and mesalamine (5-aminosalicylic acid) in the same molecule, has been used for many years to treat IBD.

- Corticosteroids and adrenocorticotrophic hormone have been widely used for the treatment of ulcerative colitis and Crohn's disease and are used in moderate to severe disease.
- Prednisone is most commonly used. Budesonide is an oral controlled-release formulation that minimizes systemic effects.
- Immunosuppressive agents such as **azathioprine and mercaptopurine** (a metabolite of azathioprine) are sometimes used for the treatment of IBD.

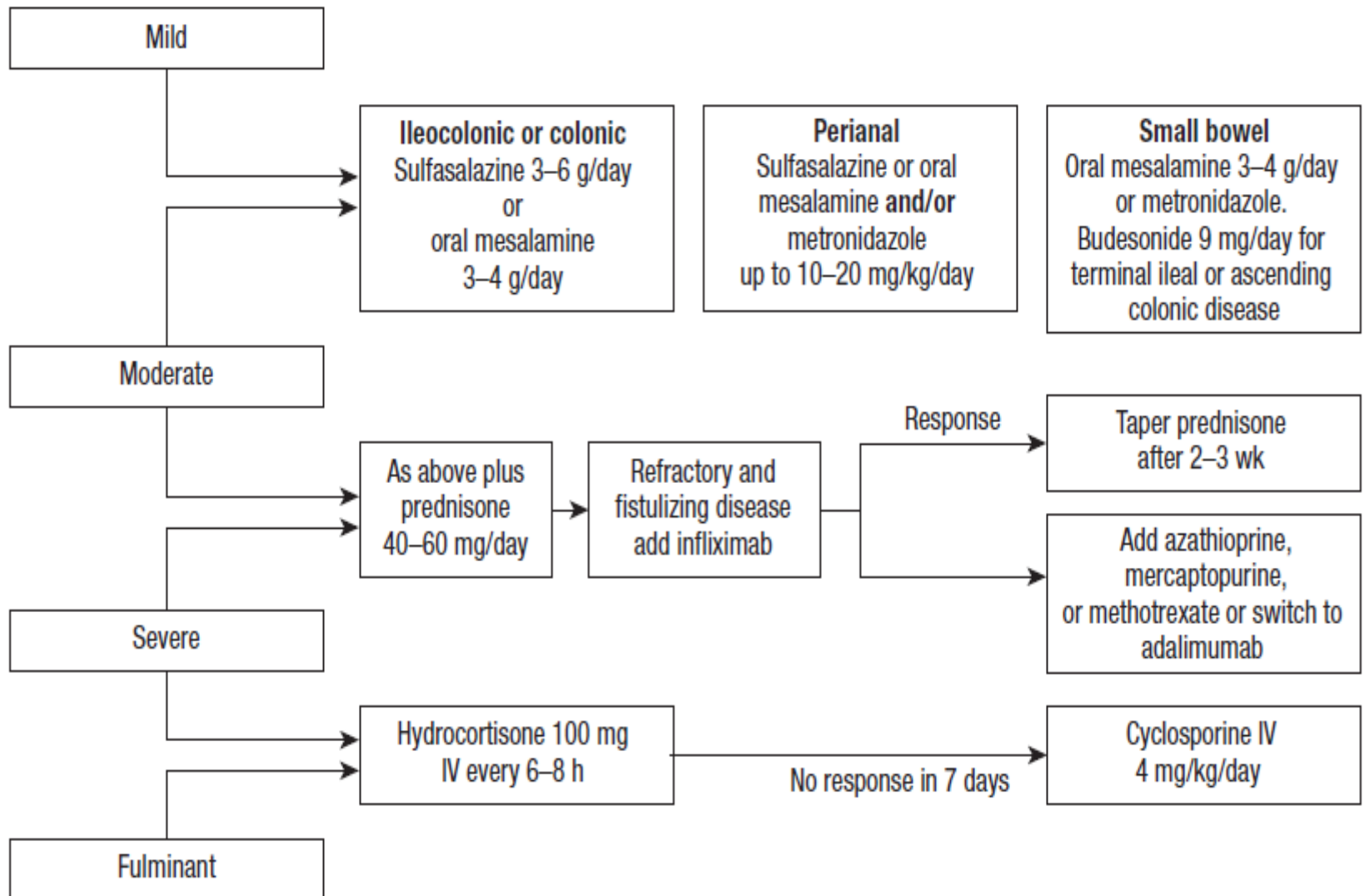
- Infliximab is an anti-TNF antibody that is useful in moderate to severe active disease and steroid-dependent or fistulizing disease but the cost far exceeds that of other regimens.
- Adalimumab is another anti-TNF antibody that is an option for patients with moderate to severe active Crohn's disease previously treated with infliximab who have lost response.

Treatment approaches for ulcerative colitis.



Treatment approaches for Crohn's disease.

Disease severity



- Prevention of recurrence of disease is clearly more difficult with Crohn's disease than with ulcerative colitis. **Sulfasalazine and oral mesalamine derivatives are** effective in preventing acute recurrences in quiescent Crohn's disease.
- **Steroids also have no place in the prevention of recurrence of Crohn's disease;** these agents do not appear to alter the long-term course of the disease.
- Although the published data are not consistent, there is evidence to suggest that **azathioprine, mercaptopurine, methotrexate, infliximab, and adalimumab** are effective in maintaining remission in Crohn's disease.

SELECTED COMPLICATIONS

Toxic Megacolon:

- The treatment required for toxic megacolon includes general supportive measures to maintain vital functions, consideration for early surgical intervention, and antimicrobials.
- Aggressive fluid and electrolyte management are required for dehydration. When the patient has lost significant amounts of blood (through the rectum), blood replacement is also necessary.
- Steroids in high dosages (hydrocortisone 100 mg every 8 hours) should be administered intravenously to reduce acute inflammation.
- Antimicrobial regimens that are effective against enteric aerobes and anaerobes should be administered as preemptive therapy in the event that perforation occurs.

Systemic Manifestations:

- The common systemic manifestations of IBD include arthritis, anemia, skin manifestations such as erythema nodosum and pyoderma gangrenosum, uveitis, and liver disease.
- Anemia may be a common problem where there is significant blood loss from the GI tract.
- When the patient can consume oral medication, **ferrous sulfate** should be administered. Vitamin B12 or folic acid may also be required.

- Sulfasalazine is often associated with either dose-related or idiosyncratic adverse drug effects.
- Dose-related side effects usually include GI disturbances such as nausea, vomiting, diarrhea, or anorexia, but may also include headache and arthralgia.
- Patients receiving sulfasalazine should receive oral **folic acid supplementation** since sulfasalazine inhibits folic acid absorption.

- Immunosuppressants such as azathioprine and mercaptopurine have a significant potential for adverse reactions, including bone marrow suppression, and have been associated with lymphomas (in renal transplant patients) and pancreatitis.
- Infliximab has been associated with infusion reactions, serum sickness, sepsis, and reactivation of latent tuberculosis.
- Adalimumab carries risks similar to infliximab.