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Semantics

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By definition a maintenance drug or therapy is one that prevents relapse of a condition. Usually, but not always, this implies that there is a dose–response effect for the maintenance agent. Examples of maintenance drugs include H_2-receptor antagonists to prevent the recurrence of peptic ulcers, PPIs to prevent recurrence of reflux esophagitis and various therapies to maintain remissions for IBD (e.g. aminosalicylates for ulcerative colitis, thiopurines for Crohn's disease and monoclonal antibodies that target tumor necrosis factor for Crohn's disease and ulcerative colitis).

Implicit in the definition of a maintenance agent is the balance between safety and efficacy. The drugs mentioned above have been approved by regulatory authorities and have been deemed safe and effective by the FDA for the specified indications. By contrast, although indicated for the acute, short-term treatment of IBD, corticosteroids are not considered maintenance drugs. Instead, clinicians and societal committees state that corticosteroids should not be used as maintenance agents and have invoked the term 'steroid dependence' (*Am J Gastroenterol* [2001] 96: 635–643; *Gut* [2004] 53 Suppl 5: V1–V16; *Gut* [2006] 55 Suppl 1: i16–i35). Personally, I find the term steroid dependent to be pejorative. Patients are not described as aminosalicylate dependent, azathioprine dependent, or infliximab dependent, despite evidence that withdrawal of these agents leads to clinical relapse (*Am J Gastroenterol* [2004] 99: 1371–1385).

I am not an advocate for corticosteroid maintenance therapy, but we should be intellectually honest about how we define terminology. Indeed, we intuitively know that steroids can maintain remission in patients with IBD. The term steroid dependent implies that patients are in remission on steroids but cannot taper without relapsing. By contrast, we use the term steroid refractory to describe patients whose disease remains active despite corticosteroid treatment.

Corticosteroids are…drugs we "love to hate" and hence we label them with judgmental terminology similar to that reserved for narcotics.

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Beyond intuition and clinical observations there is randomized, control-trial evidence that corticosteroids can maintain remission in patients with IBD. In the MATRIX study by Schoon *et al*. (*Clin Gastroenterol Hepatol* [2005] 3: 113–121) patients with Crohn's disease were randomly allocated to 2 years' therapy with either budesonide or prednisone, with the expectation that the clinical investigators would adjust doses to maintain the Crohn's Disease Activity Index (CDAI) below 150 (i.e. clinical remission). The end point of the trial was not maintenance of remission because all patients were maintained but, rather, loss of bone density. Both budesonide and prednisone were able to maintain CDAI scores in the desired range with the anticipated finding that bone loss was greater with prednisone than budesonide. The budesonide dose required to maintain remission in patients with Crohn's disease was higher than that explored in formal maintenance trials of budesonide (i.e. 6 mg), which failed to demonstrate relapse prevention at 1 year (*Am J Gastroenterol* [2005] 100: 1780–1787).

Corticosteroids are inexpensive and highly effective at inducing clinical improvement and clinical remissions; however, the litany of potential side effects has disaffected patients and clinicians from using them. They are drugs we "love to hate" and hence we label them with judgmental terminology similar to that reserved for narcotics—they lead to dependency… which has become another treatment indication. In other clinical settings, such as chronic asthma, there has been a similar evolution of therapeutic guidelines. Instead of invoking the pejorative term of steroid dependence, however, systemic steroids have now been replaced by non-systemic, inhaled steroids, which have a much more satisfactory safety profile. Perhaps non-systemic steroids will be developed and found to be an acceptable maintenance solution once doses that are safe (a bit of a moving target) and effective are established.