Objectives:
Up to 20% of patients with AIDS have abnormal intestinal permeability (IP). Glutamine seems to play an important role in preventing the increase in IP and loss of intestinal mucosal mass associated with total parenteral nutrition, and may be superior to glucose for oral rehydration in the setting of intestinal infection. This study was designed to see if supplemental glutamine could alter the abnormal IP of AIDS.

Methods: Randomly chosen patients with AIDS from the Jacobi Medical Center human immunodeficiency virus (HIV) clinic underwent IP testing using lactulose and mannitol. Those with abnormal IP were enrolled. Duodenal biopsies were performed with a Crosby capsule and the patients were randomized in a double-blind fashion to receive placebo or glutamine (4 g/day or 8 g/day) for 28 days, after which intestinal permeability tests and duodenal biopsies were repeated. Intestinal morphology was graded by ratio of villus height to crypt depth, and by degree of inflammation. Results: All patients complied with the therapy and there were no dropouts or reported side effects. The results showed less worsening of IP with the 4 g/day dose, compared with placebo. At the 8 g/day dose, there was stabilization of IP and improved absorption of mannitol. Intestinal morphology and inflammation did not change in any group.

Conclusions: These results, although not significant, suggest a trend towards improved IP and enhanced intestinal absorption with glutamine. Glutamine doses of at least 20 g/day may be necessary to improve IP. We recommend further studies at higher doses and for longer durations.