Gastroenterology Elsewhere


SARS presents with fever and respiratory distress but gastrointestinal symptoms were also seen in the recent outbreak. This retrospective study of the first 138 patients (65 men; mean age 39.3 [16.6] years) aimed at characterizing the intestinal manifestations of this virus.

Watery diarrhea at presentation was seen in 28 patients and another 25 developed it later, i.e., 38.4% had diarrhea. The average duration of diarrhea was 3.7 (2.7) days. Abdominal pain was uncommon and there was no blood in stools. No other pathogen was isolated on stool cultures and none was positive for *C. difficile* toxin. Patients with diarrhea were more likely to need ventilatory support and ICU admission. Endoscopic appearance of both colon and terminal ileum was normal. Biopsy specimens from small and large intestine showed normal architecture. Electron microscopy revealed presence of viral particles consistent with corona virus in all specimens. These were confined to the epithelial cells, mainly the apical enterocyte, and were located inside the endoplasmic reticulum. SARS-CoV could be isolated by culture in 5/6 small intestinal tissues and SARS-CoV RNA could be detected in the stool sample by RT-PCR in 16% of cases. The viral RNA was detected in stool for prolonged periods (max 73 days). Virus could not be isolated from feces in any patient.

Thus, enteric involvement is common in SARS. Diarrhea is likely to be toxin mediated as the structural changes were minimal. Active viral replication occurs in the gut and this has important implications both in terms of viral transmission as well as infection control.


Accumulation of fat in the liver followed by oxidative stress, lipid peroxidation, release of proinflammatory cytokines, stellate cell activation and eventual fibrosis are the main steps in the pathogenesis of NASH. This study aimed at assessing mitochondrial transport of free fatty acids (FFA) and activity of mitochondrial respiratory chain (MRC) complexes in patients with NASH.

43 subjects (13 women; age 44 [11] y) with NASH and 16 with no history of alcohol abuse and normal liver functions were enrolled. Percutaneous liver biopsy was done in all cases; liver biopsy was done during elective abdominal surgery in controls. Free carnitine, short chain acyl carnitine (SCAC), long chain acyl carnitine (LCAC) esters, carnitine palmitoyl transferase (CPT) activity and MRC enzyme activity was measured in liver tissue. Serum TNF α, homeostatic metabolic assessment of insulin resistance (HOMA ir) and BMI were measured.

Free and total carnitine levels in liver were similar in cases and controls. CPT was similarly active in the 2 groups. Mean levels of LCAC were higher and SCAC lower in subjects with NASH. Patients also had reduced activity of all MRC complexes. The decrease was more marked in those with advanced fibrosis than with no or F1 fibrosis. Subjects with NASH had higher BMI, serum TNF levels, and insulin resistance. There was significant inverse correlation between level of MRC complexes and serum TNF levels, insulin resistance and BMI.

Thus, the activity of all enzyme complexes of MRC is reduced in patients with NASH. Whether this occurs secondary to raised TNF levels is not known. Deficiency of carnitine or CPT enzyme does not seem to play a role in the pathogenesis of NASH.

Ginkel RV, Reitsma JB, Buller HA, Vanwyk MP, Taminiau JAJM, Benninga MA. Childhood constipation: longitudinal follow up beyond puberty. *Gastroenterology* 2003;125:

418 children (279 boys; median age at onset of symptom 3 y and at inclusion into study 8 y) with idiopathic constipation were enrolled. All received intensive therapy for 6-8 weeks, which consisted of enemas, lactulose, high fiber diet, and education about constipation. Biofeedback training was given to 297 children. Laxatives were continued until successful treatment was achieved and then tapered off over 3-4 months.

At enrollment encopresis was more common in boys (68% vs 52%) and these children more often had a family history of constipation. Ninety-six percent of children were followed up for a median duration of 5 (1-8) y. At one year, 59% had successful treatment (A) and 83% had good response with laxatives (B).

There was gradual decline of successfully treated patients, with 70% having A or B type response at 5 years. Success was achieved more often in children whose symptom onset was after the age of 4 years as compared to those with onset before 1 year and in those with less frequent encopresis. Gender, positive family history, hard fecal bolus, abnormal rectal sensation at recruitment, and type of initial therapy did not affect the chances of good outcome. Relapse in the first year after success was seen in 17% of girls and 41% of boys. Multivariate analysis showed male gender as the only factor associated with a higher risk of relapse. Constipation continued to be a problem in 30% of children aged >16 years.

Thus, successful treatment is possible in 3 of 4 children with chronic constipation. Relapses are most common in the first year after success. One third continue to have problem beyond puberty.