increase of fecal pellet output (1.5 fold change, p<0.05), of mucosal pro-inflammatory cytokine (IL-1β, TNFα and CXCL-1) mRNA levels and of myeloperoxidase (MPO) activity was found compared to controls. IL-1β and MPO activity also increased (1.5 fold change, p<0.05) while expression of tight junction proteins, occludin and ZO-1, was reduced. In post-TNBs mice, pro-inflammatory cytokine mRNA levels were increased until two weeks after TNBs injection but were restored to control levels at day 28. In contrast, colonic permeability remained higher compared to both control mice (3 fold change, p<0.05). In both models (WAS at day 10, post-TNBs at day 28), an increased proteasome trypsin-like activity compared with respective control mice was found, while other proteasome activities remained unaffected. Proteasome composition was also modified with an increased ratio of β5/constitutive β2 subunits (1.5 and 3 fold change in WAS and post-TNBs mice, respectively, both p<0.05) that are responsible of trypsin-like activity. In conclusion, we observed similar alterations of proteasome system with increased trypsin-like activity in both IBS models. Further experiments should be performed to investigate the role of UPS in the occurrence of IBS symptoms.

Su2032
Annual Costs of Care for Pediatric Irritable Bowel Syndrome and Functional Abdominal Pain Syndrome

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OBJECTIVES: Irritable bowel syndrome (IBS) and functional abdominal pain syndrome (FAP(S)) are the most common pediatric disorders that can significantly impact quality of life of children and their families. IBS and FAP(S) are thought to impose a large economic burden. However, to date, pediatric data are not available. Aim of this study was to investigate annual medical and non-medical costs of treatment for children with IBS and FAP(S).

METHODS: Baseline data from children with IBS or FAP(S) who were included in a multicenter trial (NTR2723) in the Netherlands were analyzed. Patients’ parents completed a questionnaire with a 4-week recall period concerning the use of health-care resources, travel costs, out-of-pocket expenses, productivity loss of parents and supportive measures at school. Use of abdominal pain related prescription medication was derived from case reports forms. Total annual costs per patient were calculated as the sum of direct and indirect medical and non-medical costs. Costs of initial diagnostic investigations of abdominal pain were not included in the analysis. RESULTS: A total of 258 children were included in the analysis, of which 183 (70.9%) were female. Median age was 13.4 years (6-5).

Annual total costs per patient varied from €109 to €32,628. The most important cost driver, accounting for 22% and 33% of total annual costs, respectively. Furthermore, parental productivity loss accounted for 24% of total annual costs. CONCLUSIONS: Pediatric abdominal pain related functional gastrointestinal disorders impose a large economic burden on patients, families and health care systems. Approximately half of the total annual costs of IBS and FAP(S) consists of inpatient and outpatient health care use.

Su2051
Combined Polyethylene Glycol and Sodium Picosulphate for Disimpaction in Children With Chronic Constipation and Palpable Faecaloma

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Background: Irritable bowel syndrome (IBS) is a multifactorial disorder characterized by abdominal pain/discomfort and changes in bowel habit. Although changes in intestinal motor function are thought to play an important role in IBS pathogenesis, little is known about smooth muscle contractility in this disorder. Aim of the study was to investigate the effect of IBS in human colonic smooth muscle. METHODS: Supernatants were obtained from biopsies of 14 IBS patients, 7 constipation- (IBS-C) and 7 diarrhoea- predominant IBS (IBS-D), and 6 healthy volunteers used as controls. Human colonic circular muscle strips and cells, obtained from disease-free surgical specimens, were exposed to control supernatants and IBS supernatants. The cells were incubated in the presence of the NFkB inhibitor MG132 (0.1mM) or catalase (1200U/ml). The major effect of IBS-C (19±2 and 16±2% respectively). Conversely, in cells, the inhibition of Ach contraction was more pronounced in IBS-C than IBS-D (37±9 and 17±4%). Dilution of IBS-D supernatants partially restored the effects on both strips and cells of about 50%. The cellular effects of IBS supernatants were not reversed by inhibition of the cAMP- and/or cGMP- cyclase system, 9,12-dideoxyadenosine and 3H-dlexyline respectively. Besides, to evaluate the influence of inflammation and oxidative stress, incubation with IBS-supernatants was conducted in the presence of the NFkB inhibitor MG132 (0.1mM) or catalase (1200U/ml). Data are expressed as mean±SE. Results: Control supernatants had no effect on muscle strip and cell contraction. Following exposure to IBS supernatants, in contrast to untreated strips, basal tone significantly decreased only in IBS-C (31±15%) whereas Ach-induced contraction was more pronounced in IBS-D than IBS-C (37±9% and 17±4%) respectively. Supernatants obtained from mucosal biopsies of IBS patients concentration-dependently impaired human colonic contractility, without involving muscle relaxation, inflammation or oxidative stress. Therefore, more rapid GE in some CF patients, but more robust studies are needed to corroborate the finding of gastroparesis compared to healthy controls. However as a group there was no significant difference between GE in CF patients versus the normal healthy population. Scintigraphy also identified more rapid GE in some CF patients, but more robust studies are needed to further evaluate gastric motility in this population.

Su2031
Combined Polyethylene Glycol and Sodium Picosulphate for Disimpaction in Children With Chronic Constipation and Palpable Faecaloma

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Introduction: Polyethylene glycol (PEG) is the gold standard for oral faecal disimpaction. Compliance is a problem as large volumes (1-2L/day) must be taken. Colon cleansing for colonoscopy is achieved by combining PEG and a stimulant. The stimulant sodium picosulphate (SPS) produces disimpaction in 81% of constipated patients and is a liquid easily taken by children. Aim: Determine stool output produced by combined PEG and SPS in children with chronic constipation with a palpable faeces.

Methods: Inclusion criteria: 2 year's chronic constipation, ongoing laxatives, palpable faecaloma confirmed by enlarged stool-filled rectum on x-ray. Children recorded daily dairy with laxative dose, defecation frequency, stool volume and consistency (Brinski stool scale), SRS (for wk before & 2 wks treatment). Laxatives dose (based on child's age & stool volume in colon/rectum in x-ray on day 1) was high concentration (4-8 sachets) of Movicol (PEG + elecolyte 14 7g/sachets) on day 1 &2. Each sachet was dissolved in 125ml water then equal volume of juice/milk plus 10-20 drops of SPS (Dulcolax SP). Children drank 125-250ml per half hour using a fun approach (MOVIVATE method) and continued on 1 sachet of Movicol plus 10 drops of SPS for 14 days. RESULTS: 22 children (12 male, 10 female, median age 8 years) were recruited. Children had hard stools palpable in rectum (faecaloma) & enlarged rectum in x-ray (rectal pelvic ratio >0.5). Disimpaction was achieved with high doses of Movicol on day 1. Using the MOVIVATE method, children were easily able to drink the large volume of PEG solution & compliance was high. Stool consistency increased from mean (semi SD) SBS 2±0.6 to 5±1. Stool volume (median) increased from 1.0±0.4L per 2-3L per day during the disimpaction week. Subjects produced maximal stool volume on day 2, 0.5-4.0L of stool over day 1 & 2gg50 of stool/day in the following 10 days, with (mean(SEM) of 2 4.2±0.6 total stool produced over 14-days. Despite producing a large volume of soft stool, 15/22 still had a palpable faecesoma on day8 but faecesomas were smaller than on day 1. There was a weak positive correlation between BMI Movicol dose used and a moderate relationship between BMI stool output. This suggests a larger dose was required.

Conclusion: For disimpaction in children with a palpable faecaloma and rectal enlargement, combined PEG and SPS given at high dose on day 1 & 2 are effective in producing large volumes of stool. The MOVIVATE method provided a fun way to drink the large volume of PEG solution and SPS was used effectively in removing the faecesoma in 1/3 of children but a higher dose should be tested. The method was well tolerated and with further refinement of dose could provide a method of disimpaction in children with chronic constipation and large solid stools in the rectum.