not universal. Current study aimed to characterize not only the incidence, but also the clinical picture of IBD through 1987-2003 in a large pediatric population in Finland.

Methods: Data was collected from the patient discharge and medical records at the two largest University Hospitals in Finland. The study population covered a total of 619, 340 children, representing 56% of the children aged < 18 years in the whole country. All cases diagnosed with IBD in 1987-2003 were reviewed. Clinical, endoscopic and histological data were collected. Incidence rates were estimated based on statistical assumptions.

Results: A total of 604 cases with IBD were diagnosed during the 17-year period. All these patients had undergone endoscopy. The diagnosis was CD in 203 (34%) cases, UC in 317 (52%) cases, and indeterminate colitis (IC) in 83 (14%) cases. The mean annual incidence rate increased from 3.9/100 000 (95% CI 2.5-5.8) in 1987 to 7.0/100 000 (CI 5.0-9.4) in 2003 ($P < 0.001$). The majority of cases were aged from 12 to < 15 years (N = 200, 33%). Of cases 5.1% were less than 3 years and 14% less than 6 years of age. IC was most common in the very young children; 29% of all IBD cases less than 3 years of age had IC. Of the patients 97% had been followed up until the age of 18 years in the hospitals after the initial diagnosis (median follow up 3.1 years). Of all cases 45.2% were initially treated with steroids whereas 17.8% received immunosuppressive agents at the end of the follow-up. Operations had been performed in 21% of the cases before the age of 18. The median time interval from the diagnosis to the first operation was 1.8 years (range 7.8 years).

Conclusions: The incidence of pediatric IBD almost doubled in Finland from 1987 to 2003. Surgical intervention was common early in the disease course.

Infliximab Treatment in Pediatric IBD Patients: A Single-centre Experience

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Aim: Evaluation of the treatment effectiveness and side effects of episodic infliximab treatment in paediatric IBD patients.

Methods: Retrospective study collecting data on clinical evolution, nutritional status and growth of 12 IBD patients <18y treated with infliximab infusions (2002-2006) (on a total of 37).

Results: 11 Crohn's disease (10M) and 1 ulcerative colitis (1F) were started on infliximab because of partial or total steroid dependence. All had maintenance treatment with mesalazine and azathioprine. Modulen was used as adjuvant therapy. Median age at diagnosis: 11.9 y (10.5-14.1). Median age at start of infliximab treatment: 14.3y (12.8-17.8). Repeated infliximab infusions were administered on clinical demand. Median follow-up since infliximab: 21m (3m-4y). Complete remission (CR= total regression of symptoms 30d after infliximab infusion) was observed in 58% (7/12), partial remission (PR= regression of symptoms) in 33% (4/12) and no response in 1/12. Steroid withdrawal was possible in all infliximab treated patients. Side effects in 3/12: 2 immediate allergic reactions (future infusions were continued with concomitant use of oral antihistaminics and IV steroids), 1 patient with serum sickness & arthritis (stopped). 9/11 remaining patients continue to receive infliximab every 2-3m with concomitant azathioprine treatment. Growth improved significantly within 3m after start in the CR group but not in the PR group.

Conclusions: These results confirm a good short term response to infliximab in paediatric patients with steroid dependent IBD. Side effects were comparable to what is known in adult patients. Many patients remain infliximab dependent. Hence, long term effects, now unknown, are relevant, necessitating careful follow-up of these patients.

Transient CXCL-8 Production of Buccal Epithelium in Early-onset Crohn's Disease

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Inflammatory bowel diseases (IBD) represent an aberrant immune response by the mucosal immune system to luminal bacteria. Previously, we have compared the immunological activity of buccal epithelial cells (BEC) from children with IBD and adults with Crohn's disease. Only buccal epithelial cells from children with Crohn's disease exhibited enhanced production of the chemokines CXCL-8, CXCL-9, and CXCL-10 whereas BEC from pediatric ulcerative colitis patients, and adult Crohn's disease patients did not. In vitro stimulation with bacterial stimuli such as lipopolysaccharide or zymosan further increased chemokine release by cells from pediatric Crohn's disease patients only.

Next, we determined whether the enhanced chemokine production is specifically associated with pediatric onset of Crohn's disease and present throughout life, or that this enhanced activity is exclusively present during disease in childhood.

Buccal epithelial cells were obtained from 12 adults with Crohn's disease. Of them, 4 had developed CD before the age of 16 years and 8 were older than 20 years of age at CD onset. Cells were cultured with and without microbial stimulation. CXCL-8 levels were determined at 24h in culture supernatants by ELISA.

Our preliminary data suggest that the enhanced immunological response of the BEC in pediatric CD is no longer present in adult life. None of the pediatric onset patients showed enhanced levels of CXCL-8, either spontaneously or in response to microbial stimulation. These results may reveal immunological alterations within the epithelial cells that are specifically associated with pediatric IBD.

The Effect of Pre-, Pro- and Synbiotics on the Intestinal Flora of Children with Crohn's Disease

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Flora composition may contribute to the pathogenesis of Crohn's disease (CD). Interventions with pre-, pro- and synbiotics attempt to beneficially modify microbial metabolic activity. Stable isotopes mark the metabolism of intestinal bacteria: ^{13}C-lactose ureide (LU) indicates orocaecal transit time (OCTT) based on exhaled $^{13}CO_2$, ^{15}N LU colonic NH3 metabolism based on ^{15}N urinary levels. ^{13}C LU and ^{15}N LU are metabolized by the flora of healthy children (1). Pre and probiotics increase bacterial N incorporation, resulting in reduced urinary ^{15}N-excretion in healthy adults (2).

Our aim was to assess the effect of pre, pro and synbiotics on the flora of pediatric CD patients using these biomarkers. Standard test meal (pancake with 250 mg ^{13}C LU and 75 mg ^{15}N LU) and collection methods (breath samples for $^{13}CO_2$ 0-10 hrs and urinary collection for ^{15}N 0-48 hrs) were used (1,2). We studied 12 healthy children (6 boys-mean age 9 yrs, range 6-12 yrs) and 12 patients with inactive CD (10 boys, mean age 13,4 yrs, range 5-18 yrs, mean PCDAI: 7,5). Informed consent/assent were obtained. All children were studied in basal conditions. CD patients performed additional tests after placebo: maltodextrine 8g/d, prebiotic: oligofructose-enriched inulin (Synergy 1) 8 g/d, probiotics: *Lactobacillus rhamnosus* 80% and *Lactobacillus acidophilus* 20% at 6.10^9 CFU/d (Bacilac) and synbiotics: a combination of both. Test products were administered in random order for 2 wks, with 2 wks wash out intervals. In healthy children ^{13}C LU yielded $^{13}CO_2$ in expired air in all but one (mean OCTT: 278,2± 65,9 min) and ^{15}N LU resulted in 51,65 ± 11,45% dose ^{15}N urinary recovery (0-48 hrs). In all but one, CD patients who completed the study ^{13}C LU breath test yielded very delayed (>360 min) or no $^{13}CO_2$ exhalation for basal condition, placebo, pre, pro and synbiotics in 9, 5, 8, 9, 7 subjects respectively. In contrast, ^{15}N LU excretion in basal conditions (#10) was similar to healthy children (47,61±16,81; p=NS). Intervention with placebo, pre and probiotics did not change ^{15}N % dose urinary excretion (0-48 hrs placebo: 48,70±28,99; prebiotic: 56,16± 14,25; probiotics: