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INTESTINAL TRANSPLANTATION FOR MICROVILLOUS INCLUSION DISEASE. SHOULD WE INCLUDE THE COLON ? A. De Roover (1), O. Guidi (2), C. Coimbra (1), O. Detry (1), A. Kaba (3), J. Joris (3), I. Etienne (2), J. Rigo (2), M. Meurisse (1), P. Honoré (1). (1) Dept of Abdominal Surgery and Transplantation, CHU, Liège ; (2) Dept of Pediatrics, CHR, Liège ; (3) Dept of Anesthesiology, CHU, Liège.

Microvillous inclusion disease (MID) is a congenital disorder affecting the intestinal epithelium, characterized by a deficit of absorption and profuse diarrhea. Patients need lifelong total parenteral nutrition. Quality of life is poor and long term survival limited due to metabolic complications, liver failure and septic episodes, The diagnosis is established by histology demonstrating villi atrophy and inclusions lined with microvilli in the apical cytoplasm of surface enterocytes. Pathology can however vary in its aspect as well as in the localization of the lesions, sometimes absent in the colon. The only effective treatment is transplantation but controversy remains about the inclusion of the colon in the graft. An eighteen months-old boy was referred to our unit with the clinical picture of MID, confirmed at biopsy of the duodenum. Colon histology appeared normal. The patient was placed on the waiting list for an isolated small intestine transplant. He received a graft 6 months later from a 14 months-old donor. The recipient small bowel was removed preserving only the first jejunal loop for a potential jejunostomy, should the graft need to be removed. The distal ileum of the graft was anastomosed on the recipient transverse colon, while a distal loop ileostomy was performed for biopsy monitoring of the transplant. The child did not present any significant losses from the colon while the ileostomy was present. At 2 months after the transplantation, he was on full enteral feeding, requiring only episodic crystalloid perfusion to compensate for ileostomy output. Since ileostomy closure at 3 months, no diarrhea was observed and IV fluids could be omitted. MID appears as an heterogenous syndrom that can affect small and large bowel. The concern comes from the value of the biopsies performed as expression of specific markers of the disease may be atypical, patchy or absent. While some patients may need colon replacement, clinically significant lesions can be limited to the small intestine and treated with an isolated small bowel graft.

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ACTIVATOR OF NFK-B LIGAND (RANKL), RANK AND OSTEOPROTEGERIN IN INFLAMMATORY BOWEL DISEASE : IMPLICATION IN CHRONIC INFLAMMATION AND BONE LOSS. C. Reenaers (1), N. Franchimont (2), C. Oury (3), C. Lambert (2), J. Belaiche (1), M. Malaise (2), P. Delvenne (4), E. Louis (1). (1) Ulg, gastroenterology ; (2) Ulg, rheumatology ; (3) Ulg, genetic ; (4) Ulg, pathology.

Crohn's disease (CD) and ulcerative colitis (UC) are inflammatory bowel diseases (IBD) associated with osteopenia. RANK (Receptor activator of NF-κB) is expressed by osteoclasts and by antigen presenting cells (APC). With its ligand RANKL, expressed by osteoblasts and T lymphocytes, RANK plays a critical role in bone resorption but also in DC-T cells interaction. Osteoprotegerin (OPG), a soluble decoy receptor for RANKL, inhibits the RANK-RANKL interaction. The **aim** of our work was to study the expression of RANK, RANKL and OPG in IBD.
Material and methods : Total RNA was extracted from normal colon samples. RANK, RANKL and OPG mRNA expression was studied by RT-PCR (n = 5). The level of soluble RANKL (sRANKL) and OPG in the gut was analysed by specific ELISA on supernatant of cultured colonic biopsies (15 CD patients, 7 controls patients). Fixed colonic samples from 14 CD patients, 10 UC patients, 10 diverticulitis patients and 5 controls were studied by immunostaining and immunofluorescence. Serum levels of sRANKL and OPG were also assessed by specific ELISA (CD = 18, UC = 14, inflammatory controls = 11, controls = 14). We studied the cells expressing RANK and RANKL in the serum by flow cytometry on PBMC isolated from CD, UC, inflammatory controls and healthy controls.
Results : Transcripts for RANK, RANKL and OPG were confirmed in the human colon by RT-PCR. We observed by immunostaining and immunofluorescence an important number of RANK+ cells in areas of chronic inflammation in CD, UC or diverticulitis. Double staining suggested that theses cells corresponded to CD68 and S100 cells. Levels of sRANKL and OPG were significantly increased in cultured colonic biopsies from CD, particularly in inflamed areas. Only OPG was correlated to pro and anti-inflammatory cytokines. Important levels of sRANKL and OPG were also detected in the serum of active CD. The study of PBMC in flow cytometry demonstrated that RANK and RANKL positive cells corresponded to 5 to 10% of PBMC. All these cells were CD4+ and CD1a+.
Conclusion : There is an expression of RANKL, RANK and OPG in the human colon. The level of RANK in the gut is increased in chronic inflammation in different pathologies (CD, UC, diverticulitis). Moreover, we observed important levels of RANKL and OPG in the supernatant of cultured colonic biopsies and in the serum, mainly in active CD. The cells expressing RANKL and RANK in the colon and in the blood have characteristics of APC. These data suggest that RANK, RANKL and OPG system could be involved in immunology processes taking place in the gut in several inflammatory diseases. These proteins could also have a role in the associated bone loss, particularly in CD.