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LUMINAL CONTACT IMPROVES HUMAN SMALL BOWEL PRESERVATION. A. DeRoover, L. de Leval, J. Gilmaire, O. Detry, C. Coimbra, J. Boniver, P. Honoré, M. Meurisse. Departments of Transplantation and Pathology, Centre Hospitalier Universitaire, Liège, Belgium.

Aim. In clinical conditions small bowel is preserved without any contact between the mucosa and the preservation solution. We evaluated the impact of a luminal contact with different preservation solutions on the structural quality of small bowel preservation.
M&M. Segments of ileum were harvested from stable multi-organ donors and flushed with UW. For each donor, ileal segments were placed in UW without any contact between the mucosa and the preservation solution, as in clinical conditions (control group). Adjacent segments were cut on their antimesenteric side and placed in UW, UW+glutamine, Celsior or NaCl 0.9% so that their mucosa was widely in touch with the solution. The grafts were preserved in ice and removed from the preservation fluid at different time intervals (0, 3, 6 and 12 hours). Tissues were studied by optical microscopy after H&E staining of formalin-fixed paraffin-embedded specimens. A median histological score was attributed after examination of 3 random slides for each ileal segment per time point and compared between groups of the same donor.
Results. As early as after 3 hours of preservation, detachment of the villi epithelium is observed in the control group. Preservation in this group during 6 and 12 hours is accompanied by further tissue alteration with complete detachment of the epithelium from the basal membrane of the villi. The histological score of the segments preserved with a luminal contact with UW, UW+glutamine and Celsior was always significantly higher than its control from the same donor. Contact of the lumen with NaCl 0.9% was associated with early severe oedema and villus destruction.
Conclusion. Luminal contact between the mucosa of intestinal grafts and an adapted preservation solution improves the quality of small bowel preservation in the human. Addition of substrates to the solution can have further beneficial impact while the absence of impermeants in the solution can have a detrimental effect.

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A TDT STUDY OF NOVEL POLYMORPHISMS IN THE INNATE IMMUNITY GENES TOLL LIKE RECEPTOR (TLR) 2 AND 4 IN INFLAMMATORY BOWEL DISEASE (IBD). M. Pierik, G. Claessens, N. Van Schuerbeek, S. Joossens, P. Rutgeerts, S. Vermeire. Department of Gastroenterology, University Hospital Gasthuisberg, Leuven, Belgium.

Introduction : The important role of innate immunity receptors in the pathogenesis of IBD is underscored by the confirmed association between 3 CARD15 variants and CD and also by the recent association between Asp299Gly in TLR4 and IBD. TLR2 is highly homologues to TLR4 and also recognises bacterial lipopolysaccharide (LPS). To our knowledge, the TLR2 gene has not been studied in IBD.
Methods : Public databases were screened for single nucleotide polymorphisms (SNPs) in the TLR2 and TLR4 genes. Only non-synonymous SNPs located in coding sequences and one SNP in the 3'UTR were selected. DNA from 215 IBD-affected trios (CD 159, UC 49 and IC 7) was amplified for C1892A, G2258A, A7484T, A1736G in TLR2 and for A5827G, A4102G, A4564T, A4738G, A5318G, A4959G in TLR4 using PCR-RFLP. Mutant allele frequencies were calculated using founders only. TDT and haplo-TDT were performed using Genehunter 2.1.
Results : Only 3 SNPs in TLR2 had allele frequencies of more than 1% (4% for 1892A, 3.3% for 2258A and 5.1% for 7484T). All studied SNPs in TLR4 had minor allele frequencies of less than 1%. TDT showed a clear overtransmission of 7484A allele in TLR2 towards affected offspring in the total cohort (T/U 32/10 Chi 11.52, $p<0.001$) and in CDonly (T/U 24/9, Chi 6.82, $p= 0.009$). When combining, C1892A and G2258A, A7484T only the haplotype CGA was significantly overtransmitted towards affected offspring in both IBD and CD (both $p<0.01$).
Conclusion : In this study, we have validated 3 novel SNPs in TLR2 in a Caucasian population. Furthermore, by studying these SNPs in a cohort of IBD patients, a significant distortion of transmission for TLR2 A7484T was observed. This provides further evidence that the innate immunity pathway is important in the genetic susceptibility of IBD and the data should therefore be validated by functional studies.