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Colonic metaplasia of the neo-terminal ileum in Crohn's Disease

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Mucosa of the neo-terminal ileum after ileo-colonic resection for Crohn’s Disease (CD), showing sulfomucin-type metaplasia. The High-Iron-Diamine (HID) histochemical reaction documents the neo-expression of sulfomucins in ileal columnar/goblet enterocytes (Fig. 1).

In a previous study [1] we already documented in CD ileum the metaplastic transformation of the native ileal mucosa into colonic type sulfomucin-rich mucosa (i.e. colonic metaplasia).

Submucosal and myenteric plexitis in proximal margins of ileocolonic resection specimens have been associated with CD recurrence [2,3]. Differently, the clinico-pathological usefulness of colonic metaplasia as early predictor of clinical and endoscopic CD recurrence is undefined.

Panels A–C

Ileal mucosa (biopsy sample obtained 6 months after ileo-colonic resection): Panel A. In the routine hematoxylin-eosin stain, the original structure of the ileal villi is well recognizable and only mild distortion of the crypts and lymphocytic flogosis is observable. Hematoxylin-eosin, original magnification 10x. Panel B. The original structure of the ileal villi is well recognizable (sialomucin secreting goblet cells bordering the villous structure (light blue)). Some of the crypts are bordered by intense-brown stained epithelia (containing sulfomucins: i.e. sulfomucin-secreting metaplasia). High Iron Diamine; original magnification 10x. Panel C. At a higher magnification, the sulfomucin secreting goblet cells (intense-brown) bordering the crypts structure (light blue) are more assessable. High Iron Diamine; original magnification 25x.

Panels D–F

Ileal mucosa (biopsy sample obtained 12 months after ileo-colonic resection): Panel D. In the routine hematoxylin-eosin stain, the original structure of the ileal villi is almost lost and a more intense flogosis (but no granulocytes) and crypt distortion are observed. Hematoxylin-eosin, original magnification 10x. Panel E. The sulfomucin-secreting cells (intense brown) appear along the remaining villous structure, beyond crypts (sulfomucin-secreting metaplasia involving the whole villous structure). High Iron Diamine; original magnification 25x. Panel F. At a higher magnification, the sulfomucin secreting crypts (intense-brown) predominate on sialomucin-secreting (light blue) goblet cells (sulfomucin-secreting metaplasia involving the whole epithelium). High Iron Diamine; original magnification 40x.

References