**Reviewer's report**

**Title:** Colonic epithelial ion transport is not affected in patients with diverticulosis

**Version:** 1  **Date:** 10 March 2007

**Reviewer:** Tomasz Tyrakowski

**Reviewer's report:**

**General**

The article addresses the problem if in colonic diverticular disease the generalized transepithelial ion transport dysfunction is present. The question, important for current understanding of the mechanism of the disease, is clearly formulated and negatively answered after careful study so the paper deserves for publication. The additional good point is that the specimens are human biopsy material so the conclusions are undoubtedly important for clinic.

The method is based on modified Ussing apparatus which is appropriate for studies of transepithelial electrophysiological phenomena. The application of different substances of known pharmacological activity is adequate test for analyzing of functional competence of studied tissues.

The data were carefully measured with application of different experimental controls – particularly important are those for damage during biopsy and for stability of measured parameters. The data clearly showed the range of local variations of electrical parameters what is usually neglected in experimental studies on animals.

The manuscript adheres without exceptions to the accepted standards of reporting of clinical data.

The discussion and conclusions are well balanced and are supported by the data.

The title is in my opinion too far reaching as many specific epithelial receptors/regulatory processes were not tested, of course serotoninergic, muscarinic, intracellular activatory mechanism and electrogenic transport pathways were shown not affected in the disease.

The manuscript is written in plain style which stressed the understanding of important problems so the writing (according to my non professional linguist's opinion) is acceptable.

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**Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)**

None

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**Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)**

There are many repeated items in the References (7, 28, 30; 8-11, 13, 24, 57; 14, 19, 31; 15, 20; 16, 21; 17, 23; 18, 38, 42).

Page 5, lines 1 and 2 from below is “…transport capacity. For amiloride it was added…” should be: “…transport capacity with exception for amiloride added…”

Pages 8, line 4 and others from above: “t1/2” not defined in Method, and in List of abbreviations.

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**Discretionary Revisions (which the author can choose to ignore)**

The question of heterogeneity of epithelial function in diverticular disease, especially differences between apparently normal tissue and the one in the region of diverticulum should be shortly commented by authors.

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**What next?:** Accept after minor essential revisions

**Level of interest:** An article of importance in its field
Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.