



POSTER PRESENTATION

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Altered gastrointestinal mucosal permeability in asthma

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Background

Abnormal gastrointestinal permeability (GIP) has been implicated in immunologic disease, including Crohn's disease and celiac disease, but also including non-intestinal diseases such as diabetes and multiple sclerosis. Abnormal GIP may lead to entry of allergens from the gut into the systemic circulation and may prime the immune system, inciting inflammation outside the gut.

Hypothesis

Adult asthmatics demonstrate abnormal small bowel GIP.

Methods

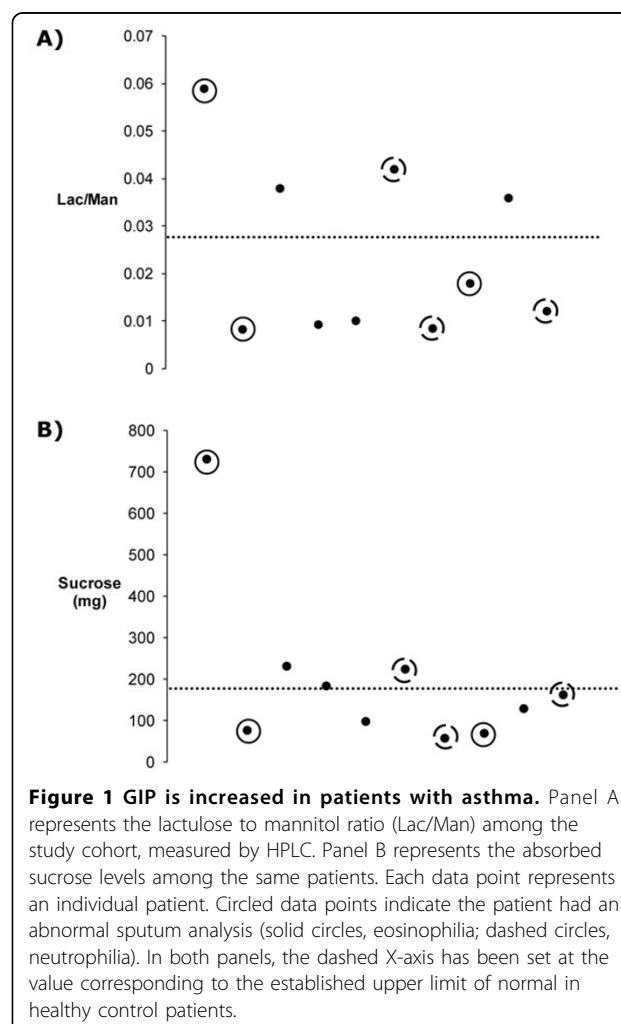
GIP in ten patients followed in a regional referral centre in Northern Alberta was assessed. Patients were classified as allergic versus non-allergic on the basis of skin allergen testing. GIP was evaluated using an assay with established normal range values. Patients ingested a solution containing sucrose, mannitol and lactulose and urine was collected and assayed using high-performance liquid chromatography. Retrospectively, patient records were reviewed, and in addition to demographics, airway physiology, atopy, and sputum cell counts (SCCs) were captured.

Results

5 of 10 patients had increased GIP (Figure 1). Patients with abnormal GIP were not more likely to have evidence of active airway inflammation as assessed by SCC. There was no association between atopy and abnormal GIP.

Discussion

This study demonstrates an increase in GIP in the MALT-rich small intestine of asthmatic patients, illustrating an association between abnormal GIP and current asthma.

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Abnormal GIP did not correlate with concurrent airway inflammation. Abnormal GIP may be an important determinant of allergenic entry into the systemic circulation, and the absence of a correlation between active airway inflammation and increased GIP suggests a primary defect in the immunologic barrier.

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