

DIFFERENTIAL COLONIC GAS PROFILES IN PATIENTS WITH DELAYED COLONIC TRANSIT AS MEASURED VIA WIRELESS MOTILITY CAPSULE

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Poster

Colorectal

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In 170 patients with suspected gut dysmotility, the Atmo wireless motility capsule showed that delayed colonic transit was associated with altered hydrogen and carbon dioxide profiles, suggesting earlier depletion of fermentable substrates or conversion of hydrogen to methane.

KEY POINTS

- Delayed colonic transit (≥ 59 hours) was identified in 35% of 170 subjects with valid colonic gas and transit data measured by the Atmo Capsule, a wireless device that telemetrically transmits luminal hydrogen and carbon dioxide concentrations.
- Patients with delayed transit had higher hydrogen concentrations in the proximal colon (3.8 vs 2.0 (%.h)/h, $p=0.01$) and lower concentrations in the distal colon (1.5 vs 3.0, $p=0.06$) compared to those with normal transit, with an altered fermentation profile (Q1:Q4 ratio 1.4 vs 0.7, $p=0.03$).
- Carbon dioxide concentrations were higher throughout the colon in delayed transit (overall 27.4 vs 21.3 (%.h)/h, $p<0.01$), except in the distal colon where no difference was observed.
- Peak hydrogen and carbon dioxide concentrations occurred earlier in colonic transit and were higher in patients with delayed versus normal transit, consistent with progressive substrate depletion or hydrogen conversion to methane.
- This study may interest clinicians evaluating patients with suspected colonic dysmotility or investigating the relationship between colonic transit and microbial fermentation activity.

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