Conclusion Here we have shown for the first time that vasopressin and oxytocin have direct contractile effects on human isolated stomach muscle. The effective concentrations of vasopressin are within the range induced by nausea in humans. This indicates a potential direct role of vasopressin in signalling the induction of nausea in humans.

Competing interests None declared.

REFERENCES

PWE-005 HIGH RESOLUTION ANORECTAL MANOMETRY: FIRST STUDY ESTABLISHING NORMAL VALUES IN HEALTHY VOLUNTEERS
doi:10.1136/gutjnl-2012-302514d.5

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Introduction High Resolution Anorectal Manometry (HRAM) combined with interpretive software allows for the interpolation of manometric recordings into highly detailed topographical plots of intraluminal pressure events. HRAM has previously been shown to correlate highly with conventional water perfused manometry measurements. This preliminary study is the first report establishing HRAM pressures in healthy volunteers. The advantages of the detection of pressure changes over a longer length of the anal canal have already been shown to improve accuracy and the detection of abnormalities in the anorectum.

Methods HRAM was performed using the Medical Measurement System (Enschede, Netherlands) consisting of an 8-channel HRAM catheter with sensors spaced at 0.8 cm intervals. Pressure data are displayed in topographic form using Medical Measurement System analysis software that is integrated into the system. Measurements of anal sphincter pressure at rest, cough, during voluntary squeeze, endurance squeeze and pushdown were evaluated. Volunteers also completed a questionnaire which provided a Wexner score.

Results A total of 20 healthy volunteers (11 Female, 9 Male) with a mean age of 40 (range 19–60) constituted the study population. The Wexner scores ranged from 0 to 1 (median 0).

Conclusion These preliminary measurements of HRAM pressures in healthy volunteers could serve as a valuable resource of normative data when performing HRAM studies in disease specific groups such as incontinence and constipation.

Abstract PWE-005 Table 1

<table>
<thead>
<tr>
<th>Anal sphincter</th>
<th>Range</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resting pressure</td>
<td>30–163 cm H2O</td>
<td>109 cm H2O</td>
</tr>
<tr>
<td>Cough pressure increase</td>
<td>39–305 cm H2O</td>
<td>143 cm H2O</td>
</tr>
<tr>
<td>Voluntary squeeze pressure</td>
<td>50–922 cm H2O</td>
<td>215 cm H2O</td>
</tr>
<tr>
<td>Endurance squeeze time</td>
<td>18–125 s</td>
<td>52 s</td>
</tr>
<tr>
<td>% of relaxation during pushdown</td>
<td>0–42% (17/20 relaxed)</td>
<td>14%</td>
</tr>
</tbody>
</table>

Competing interests None declared.

REFERENCES

PWE-006 DIAGNOSTIC YIELD AND CLINICAL OUTCOME FOR DEFAECATING PROCTOGRAPHY AND ANORECTAL MANOMETRY IN PATIENTS WITH CHRONIC CONSTIPATION
doi:10.1136/gutjnl-2012-302514d.6

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Introduction Defaecating proctography (DFP) and anorectal manometry (ARM) are both used to investigate chronic

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References
constipation but their relative clinical performance is unclear. Our aim was to investigate the diagnostic yield and clinical outcomes of DFP and ARM in chronic constipation.

**Methods** Patients who had undergone both DFP and ARM over a 3-year period were studied retrospectively. Demographics, treatment and clinical outcomes were recorded. The diagnosis was recorded as “mixed” if investigation showed evidence of both anismus and anatomical problems such as rectocele, intussusception or prolapse. The clinical outcome was defined as positive if the test resulted in treatment with symptomatic improvement, or resolution at follow-up. To determine whether there was a selection bias in those undergoing both DFP and ARM we additionally looked at the two groups having solely DFP or ARM from the same period.

**Results** DFP and ARM group: 45 patients (40 female, 58% surgical referrals; age range 17–85 years; median 46) underwent both DFP and ARM. The diagnostic yield for DFP was higher at 98% (anismus 44%, anatomical 40%, mixed 14%; normal 2%) vs 47% for ARM (anismus 26%, mixed 21%; normal 55%). There was diagnostic concordance in only 11 (26%), partial concordance in 9 (21%) and discordance in 23 (53%) patients. Although the diagnostic yield of DFP was much greater than ARM in this combined group, both tests led to similar positive outcomes regardless (47% in DFP vs 45% in ARM) when tests revealed a pathology. Single investigation concordance in only 11 (26%), partial concordance in 9 (21%) and discordance in 23 (53%) patients. The diagnostic yield for DFP was higher at 98% (anismus 44%, anatomical 40%, mixed 14%; normal 2%) vs 47% for ARM (anismus 26%, mixed 21%; normal 55%). There was diagnostic concordance in only 11 (26%), partial concordance in 9 (21%) and discordance in 23 (53%) patients. The diagnostic yield of DFP was much greater than ARM in this combined group, both tests led to similar positive outcomes regardless (47% in DFP vs 45% in ARM) when tests revealed a pathology. Single investigation concordance in only 11 (26%), partial concordance in 9 (21%) and discordance in 23 (53%) patients. The diagnostic yield of DFP was higher at 98% (anismus 44%, anatomical 40%, mixed 14%; normal 2%) vs 47% for ARM (anismus 26%, mixed 21%; normal 55%). There was diagnostic concordance in only 11 (26%), partial concordance in 9 (21%) and discordance in 23 (53%) patients.

**Conclusion** DFP had a higher diagnostic yield than ARM, but concordance was poor. Greater diagnostic yield did not translate into more positive clinical outcomes either. The clinical impact of additional DFP-based diagnoses is therefore questionable. The single test cohort data suggest that patients having DFP alone are a different clinical population from those who accessed both tests, since diagnostic yields and clinical outcomes were higher for ARM alone. The latter group were predominantly medical gastroenterology referrals. Further study is required to design optimal investigation strategies for chronic constipation.

**Competing interests** None declared.

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**Oesophageal II**

**PWE-008 DO STATINS PREVENT THE HISTOLOGICAL SUBTYPES OF OESOPHAGEAL CANCER? PROSPECTIVE DATA FROM THE UK GENERAL PRACTICE RESEARCH DATABASE (GPRD)**

doi:10.1136/gutjnl-2012-302514d.8

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**Introduction** The incidence of oesophageal adenocarcinoma (OAC) has risen dramatically in the Western world and is associated with a poor prognosis. Statins show anti-cancer properties in experimental work with OAC cell lines for example reduced cell proliferation, increased apoptosis. This study aimed to investigate if statins are negatively associated with the development of two different histological subtypes of oesophageal cancer, OAC and oesophageal squamous cell cancer (OSCC), in a prospective cohort study.

**Methods** The cohort was over 4 million people in the General Practice Research Database (GPRD), a UK database of 488 nationwide general practices. Information is recorded on medication use prior to development of other illnesses, including cancers. Statin use was defined as a prescription for a minimum of 10 months preceding diagnosis of oesophageal cancer. Approximately half the GP practices in the GPRD are linked to the NHS cancer registry, allowing identification and sub-classification of histologically confirmed cases of OAC and OSCC. Each case was matched with four controls and conditional logistic regression estimated the OR plus 95% CIs for the development of each type of cancer, adjusted for diabetes, BMI, smoking, aspirin, PPIs and drugs that relax the lower oesophageal sphincter.

**Results** 581 histologically confirmed cases of OAC (77.8% men, mean age 70.7 years, SD=11.4) and 332 cases of OSCC (38.6% men, mean age 70 years, SD=13.8) were included in the analysis. Statin use in the 6 months prior to diagnosis of OAC was associated with a 39% reduction in risk of OAC (adjusted OR=0.61, 95% CI 0.45 to 0.84). Statin use was also associated with a 54% reduction in risk of OSCC (adjusted OR=0.46, 95% CI 0.30 to 0.71).

**Conclusion** Statin use is associated with a reduction in the risk of both OAC and OSCC. Further research is required to determine the extent of this association and whether this is due to a lower incidence or improved survival.

**Competing interests** None declared.
PWE-006 Diagnostic yield and clinical outcome for defaecating proctography and anorectal manometry in patients with chronic constipation

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