

PWE-111

**IS THERE A GENDER SPECIFIC RESPONSE OF OESOPHAGEAL MUCOSA TO ACID REFLUX?**

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**Introduction** Oesophageal adenocarcinoma has an unexplained male predominance. We hypothesise that male and female oesophageal tissues display differential responses to acid reflux and progression of Barrett's metaplasia.

**Aims** To characterise the gene expression in male and female normal oesophagus and Barrett's metaplasia, to detect gender-specific differences.

**Methods** 12 biopsy samples of normal oesophagus and Barrett's with intestinal metaplasia were obtained (6 males, 6 females). Gene expression profiles were assessed by tissue microarray analysis to determine differences in upregulated gene expression. Real-time PCR was performed to assess differences in the upregulation of key genes (cdx-1, cdx-2, PCNA).

**Results** Using a Venn diagram filter to detect genes that were dysregulated in all three stratification pools (normal vs Barrett's in males, normal in males vs females, Barrett's in males vs females), 5 genes were identified: DAZ1, DAZ2, CCL4, RPS4Y1, USP9Y. The expression of DAZ1 is threefold higher in male Barrett's and is localised to the Y-chromosome.

PCR results suggest the upregulation of cdx-2 and PCNA in Barrett's metaplasia is greater in males.

**Conclusion** We provide evidence of gender-specific differences in the reflux-Barrett's pathway.

We have identified a novel set of biomarkers in male Barrett's specimens.

Further analysis of these genetic markers through immunohistochemistry and rt-PCR is planned.

**Competing interests** None.

**Keywords** Barrett's oesophagus, gender.