heartburn intensity at 8 weeks compared to baseline was measured. A successful PPI response was defined as >50% improvement in heartburn intensity at 8 weeks compared to baseline.

**Results** Normal value cutoffs were determined as 3.0% for mean acid exposure, 4.5% for worst day acid exposure, and 9.2 for mean DeMeester score. There was no difference in% heartburn improvement after 8 weeks PPI between patients with pathological and physiological acid exposure whether pathological reflux was determined by mean acid exposure (heartburn improvement 33.8%+36.6 vs. 26.6%+33.8, mean +s.d, p=0.4), worst day acid exposure (32.1+39.4 vs. 25.8 +34.7, p=0.6), or by mean DeMeester score (33.7+36.3 vs. 26.5+35.6, p=0.4). Successful PPI response had a 77.5% positive predictive value for GORD, and only a 38.3% negative predictive value.

**Conclusions** Wireless pH study parameters in a large group of patients with heartburn referred for reflux testing show that PPI response is inadequate to make a diagnosis of reflux disease. Our data show that a large number of patients referred despite PPI response do not have reflux disease and should be weaned from the medication. An even larger proportion of patients do not have PPI response yet have pathological reflux and could be offered alternate management strategies.

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**AUTOFLUORESCENCE-TARGETED CONFOCAL ENDOMICROSCOPY VERSUS WHITE-LIGHT FOR BARRETT’S OESOPHAGUS DYSPLASIA DETECTION: A MULTI-CENTRE RANDOMISED CROSS-OVER STUDY**

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**Introduction** Dysplasia in Barrett’s oesophagus (BO) is often invisible at white light endoscopy (WLE) and Seattle protocol is labour intensive. There is lack of randomised evidence that advanced imaging improves dysplasia detection. Probe-based confocal endomicroscopy (pCLE) is accurate for high-grade dysplasia (HGHD) and intramuscular cancer (IMC) associated to visible lesions, but due to the narrow field requires combination with a red-flag technique for long-segment inconspicuous BO. We aimed to assess the diagnostic accuracy of optical biopsy by pCLE targeted by autofluorescence imaging (AFI) for any grade of dysplasia in patients without visible lesions.

**Methods** In this prospective multi-centre randomised cross-over trial BO patients were randomised to WLE with Seattle protocol (standard arm) https://mail.addenbrookes.nhs.uk/owa/auth/logon.aspx?replaceCurrent=1&url=https%3a%2f%2email.addenbrookes.nhs.uk%2fowa%2f for AFI-directed pCLE (experimental arm), and crossed over to the other arm after 6–12 weeks. The experimental arm consisted of (i)WLE inspection (ii)AFI to flag endoscopic areas (iii)pCLE on AFI (experimental arm), and crossed over to the other arm after 2fmail.addenbrookes.nhs.uk%2fowa%2f for AFI-directed pCLE endpoints were analysed: (a) trial histology from all study areas and (iv)targeted biopsies. The 6 endoscopists were invited to flag endoscopic areas (iii)pCLE on AFI (experimental arm), and crossed over to the other arm after 2fmail.addenbrookes.nhs.uk%2fowa%2f for AFI-directed pCLE endpoints were analysed: (a) trial histology from all study areas and (iv)targeted biopsies. The 6 endoscopists were invited to flag endoscopic areas (iii)pCLE on AFI (experimental arm), and crossed over to the other arm after 2fmail.addenbrookes.nhs.uk%2fowa%2f for AFI-directed pCLE endpoints were analysed: (a) trial histology from all study areas and (iv)targeted biopsies. The 6 endoscopists were invited to flag endoscopic areas (iii)pCLE on AFI (experimental arm), and crossed over to the other arm after 2fmail.addenbrookes.nhs.uk%2fowa%2f for AFI-directed pCLE endpoints were analysed: (a) trial histology from all study areas and (iv)targeted biopsies. The 6 endoscopists were invited to flag endoscopic areas (iii)pCLE on AFI (experimental arm), and crossed over to the other arm after 2fmail.addenbrookes.nhs.uk%2fowa%2f for AFI-directed pCLE endpoints were analysed: (a) trial histology from all study areas and (iv)targeted biopsies. The 6 endoscopists were invited to flag endoscopic areas (iii)pCLE on AFI (experimental arm), and crossed over to the other arm after 2fmail.addenbrookes.nhs.uk%2fowa%2f for AFI-directed pCLE endpoints were analysed: (a) trial histology from all study areas and (iv)targeted biopsies. The 6 endoscopists were invited to flag endoscopic areas (iii)pCLE on AFI (experimental arm), and crossed over to the other arm after 2fmail.addenbrookes.nhs.uk%2fowa%2f for AFI-directed pCLE endpoints were analysed: (a) trial histology from all study areas and (iv)targeted biopsies. The 6 endoscopists were invited to flag endoscopic areas (iii)pCLE on AFI (experimental arm), and crossed over to the other arm after 2fmail.addenbrookes.nhs.uk%2fowa%2f for AFI-directed pCLE endpoints were analysed: (a) trial histology from all study areas and (iv)targeted biopsies. The 6 endoscopists were invited to flag endoscopic areas (iii)pCLE on AFI (experimental arm), and crossed over to the other arm after 2fmail.addenbrookes.nhs.uk%2fowa%2f for AFI-directed pCLE endpoints were analysed: (a) trial histology from all study areas and (iv)targeted biopsies. The 6 endoscopists were invited to flag endoscopic areas (iii)pCLE on AFI (experimental arm), and crossed over to the other arm after 2fmail.addenbrookes.nhs.uk%2fowa%2f for AFI-directed pCLE endpoints were analysed: (a) trial histology from all study