Methods Patients admitted to SWBH NHS Trust with AUGIB were recruited. Dyspeptic patients attending for diagnostic OGD were used as controls. To assess platelet activation citrated whole blood was incubated at room temperature with monoclonal mouse antibodies against constitutively expressed platelet marker CD42a-PerCP, and markers of platelet activation PAC1-FITC, and CD62P-APC. Incubation was terminated after 15 minutes. Samples were analysed using a FACSCalibur flow cytometer. Platelets were identified on the basis of their forward and side scatter properties and the presence of the CD42a platelet-specific marker. CD62P and PAC1 expression were measured by the percentage of platelets expressing these markers.

Data are expressed as mean±SD for normally distributed parameters and median (interquartile range) for non-normally distributed parameters. Statistical analysis was performed using SPSS 18.0 software.

Results A total of 24 patients with AUGIB and 18 controls were recruited. Patients were age and gender matched. The mean age of the AUGIB group is 66.4 ± 18.2 years, and the control group 62.8 ± 6.1years. Significant differences were seen in all markers of platelet activation (table 1).

Abstract OC-024 Table 1 Platelet activation at 12 weeks

	AUGIB	Controls	P-value
CD62P %	16.77 (15.26–18.28)	12.95 ± 2.77	< 0.001
PAC1%	7.04 ± 3.67	3.98 ± 1.78	0.001
CD62P+PAC1+ %	1.33 (0.70–1.97)	0.73 (0.60–0.87)	0.003

Conclusion Patients presenting with AUGIB have prolonged levels of platelet activation for at least 12 weeks following the index event. This phenomenon may be further prolonged and further studies are required. This may explain the excess of CVS events in AUGIB patients. In patients with high cardiovascular risk early re-introduction of aspirin should be considered.

Disclosure of Interest None Declared

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OC-025 EXPANDED CARDIA MUCOSA ASSOCIATED WITH CENTRAL OBESITY IMMUNOHISTOCHEMICALLY RESEMBLES NON-IM BARRETT'S MUCOSA

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Introduction Recently we showed that the length of cardiac mucosa in asymptomatic volunteers correlated with age and obesity defined by waist circumference (WC) and intra-abdominal fat on MRI (ref). To further investigate the aetiology of expanded cardia, we have performed detailed histological and immunohistological studies comparing cardia with other upper GI epithelia including long segment Barrett's with or without intestinal metaplasia.

Methods Double oriented biopsies from SCJ of the 52 H.pylori negative healthy volunteers in the original obesity study were examined. To assess inflammation, the densities of polymorphonuclear (PMN), mononuclear (MN) cell infiltrations and reactive atypia were scored at squamous, cardia and oxyntocardiac mucosae of SCJ, separately. Slides were also stained for CDX-2, Villin, TFF-3 and LI-Cadherin. The immunoreactivity in each of the three types of mucosa were compared to additional biopsies from the antrum and gastric body in same subjects and biopsies from ten patients with long-segment Barrett's demonstrating foci with and without intestinal metaplasia (IM).

Results The median scores of PMN and MN cell infiltrations were maximum in the cardia mucosa compared to either proximal or distal adjacent tissues (all p values < 0.001). The score of reactive atypia was maximum at the most distal squamous mucosa. Immunohistochemistry showed that the cardia mucosa had similarities to the antrum and Barrett's with IM; however, it was identical in all immunohistochemical aspects to non-IM Barrett's mucosa (Table).

Table The extent (%) of immunostaining with different antibodies in squamocolumnar junction, gastric body, antrum and Barrett's

Conclusion Cardia mucosa which is extended proximally in H. pylori negative healthy volunteers with central obesity, is immunohistochemically identical to non-IM Barrett's mucosa. This is consistent with the expansion of cardia mucosa having similar aetiology to Barrett's mucosa and being due to metaplasia of the most distal oesophageal mucosa resulting from short segments reflux.

Disclosure of Interest None Declared

Abstract OC-025 Table

		Squamocolumnar Junction						
Antibody		Squamous	Cardiac	Oxytocardiac	Body	Antrum	Barrett's(nonIM)	Barrett's(IM)
CDX.2	Median	0	1.0	0	0	1.0	5.0	90.0
	IQR	0.0	0.10	0.0	0.0	0.1	0.10	78,90
Villin	Median	0	30.0	5.0	1.0	90.0	35	90.0
	IQR	0.0	20,70	0.10	0.1	81,90	20,48	90,95
TFF.3	Median	1.0	80.0	30.0	10.0	70.0	70.0	90
	IQR	0.5	70,90	10,30	0.13	30,70	60,80	90,90
LI.Cadherin	Median	5.0	15.0	10.0	5.0	17.5	10.0	90.0
	IQR	1,5	5,25	5,15	0.9	11,24	5,30	89,91

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Oesophageal free papers

OC-026 EOSINOPHILIC OESOPHAGITIS IN PATIENTS PRESENTING WITH DYSPHAGIA- A PROSPECTIVE ANALYSIS

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Introduction Eosinophilic oesophagitis (EO) is a chronic relapsing,immune/antigen mediated disease of the oesophagus with rapidly increasing incidence and prevalence; however EO often remains under-diagnosed. Early detection and appropriate therapy improves quality of life and may prevent development of chronic

oesophageal changes. A diagnosis can only be made when a dense eosinophilia is confirmed on histology in the context of typical symptoms (e.g.solid food dysphagia)[1].We prospectively assessed the prevalence of EO in patients presenting to endoscopy at a tertiary referral centre with solid food dysphagia over 2 years.

Methods Between Jan 2010 and Dec 2011,746 patients with dysphagia (including food bolus obstruction)had high definition white light endoscopy performed. Patient demographics,symptomatology ,endoscopic and histological findings were recorded.EO was defined as the presence of > 15 eosinophils per high power field

Results Patients with oesophageal malignancy (n = 65),barrett's oesophagus(n = 48) and post-oesophageal surgery complications (n = 16) were excluded. Of the 628 remaining patients,388(62%) (254 male; mean age 59; range 18–88) had mid-oesophageal biopsies taken.23/388 (5.9%)were diagnosed with EO 19 male; mean age 40; range 26–56).Endoscopy showed mucosal pathology in 12/23 (52%) patients with confirmed EO; oesophagitis (n = 3),red furrows (n = 3),distal narrowing (n = 2),corrugated rings (n = 2),mucosal tear (n = 1) and white exudates (n = 1).250 of the remaining patients had grade A or B oesophagitis. Overall 17 patients had food bolus obstruction.11/17 patients had biopsies taken and 5/11(46%) showed histological evidence of EO.4/5 patients with bolus obstruction had distal oesophagitis on endoscopy but EO was confirmed following ≥4 mid-oesophageal biopsies. There was a trend towards those with EO having had a greater number of biopsies taken (mean 6.14; range 2–12) compared to those without EO (mean 5.02; range 2–8; p = 0.082).28% and 51% had ≤3 and ≤4 biopsies collected respectively. The mean (±SD) number of eosinophils/hpf in the EO group was 64.3 (51.3).

Conclusion Mid-oesophageal biopsies can diagnose EO in at least 1 in 16 cases of patients with unexplained solid food dysphagia. However,1/3 of patients in whom EO should have been considered (including 6 with food bolus obstruction)did not have biopsies collected.Furthermore, 1/4 had less than the recommended minimum 4 mid-oesophageal biopsies. In summary, our experience has shown that EO detection is likely to improve further if all patients with symptoms conducive with EO (e.g.solid food dysphagia) routinely trigger an EO biopsy protocol of ≥4 from the mid-oesophagus regardless of endoscopic findings.

Disclosure of Interest None Declared

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OC-027 DEFINING CANCER RISK IN BARRETT'S OESOPHAGUS USING A 90-GENE SIGNATURE

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Introduction Barrett's oesophagus (BE) has a highly variable outcome with 0.12–0.5% of patients per year progressing to oesophageal adenocarcinoma (EA). The histopathological grading of dysplasia is used to detect cancer risk in BE; however, considerable variability exists in the reporting of dysplasia. Molecular biomarkers that can detect BE patients with dysplasia would improve risk stratification in BE, enabling clinicians to focus on high risk patients requiring treatment and reduce endoscopic surveillance in the low risk group. The aim of this study was to identify and validate a gene expression signature as a biomarker that can objectively determine dysplastic status and thereby determine the risk of cancer progression.

Methods Microarray gene expression profiling was done using 59 oesophageal samples with strict consensus diagnosis by expert pathologists (21 BE with no dysplasia, 10 BE with low grade dysplasia, 13 BE with high grade dysplasia and 8 EA). This data was used to identify a gene signature that separated non-dysplastic BE from high grade dysplasia. Gene expression data from publically available datasets were used to validate the signature. An independent set of 135 fresh frozen samples covering a spectrum of dysplastic Barrett's stages and control tissue (40 BE with no dysplasia, 21 BE with low grade, 33 BE with high grade dysplasia, 32 EA and 9 duodenum) were used for validation using the high throughput 96:96 microfluidic Fluidigm® chip on the BioMark™ PCR system.

Results A set of 90 genes was identified that separated BE with no dysplasia from BE with high grade dysplasia. This 90-gene signature was able to separate the remaining untrained samples on the microarray dataset (7 non-dysplastic, 10 low grade dysplasia and 8 EA). The signature also separated non dysplastic BE samples from EA samples on 2 external published datasets ($p \leq 0.0012$). With the fresh frozen samples, the signature separated BE with no dysplasia from BE with dysplasia and EA with an area under the curve of 0.87 (95% CI, 0.80–0.93). Pathway analysis revealed that the RAN (RAs-related Nuclear protein) regulation pathway ($p < 0.0001$) was the most significant pathway in this gene set. Furthermore, MYC was found to be the most significant transcription factor regulating at least 30% of these genes ($p < 0.0001$).

Conclusion The 90 gene-expression profile can reliably identify BE samples with dysplasia and cancer. This approach has the potential to provide robust risk stratification in BE samples as it overcomes the problems with variability in the reporting of dysplasia.

Disclosure of Interest None Declared

OC-028 STATIN USE IS ASSOCIATED WITH IMPROVED SURVIVAL IN PATIENTS WITH OESOPHAGEAL CANCER: A SURVIVAL ANALYSIS USING THE UK GENERAL PRACTICE RESEARCH DATABASE AND NATIONAL CANCER REGISTRY

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Introduction Patients with oesophageal cancer (OC) commonly present with an advanced stage of disease, and are often only amenable to palliative therapies. Of the minority suitable for potentially curative surgery, up to 50% develop recurrence at one year. Statins demonstrate several anticarcinogenic properties in oesophageal adenocarcinoma (OAC) cell lines including reducing cell proliferation, stimulating apoptosis and potentially limiting metastatic potential. We investigated for the first time the hypothesis that statin use after diagnosis or post-oesophagectomy was associated with improved survival in patients with OC.

Methods Cases of OC diagnosed between 1st January 2000 and 31st December 2009 were identified from the UK General Practice Research Database (GPRD). The GPRD data was linked to the UK National Cancer Registry (NCR) to determine histological subtype. Cox proportional hazard regression analysis with time-dependent exposures, estimated the associations between statin use (versus non-users) from diagnosis and post-surgery on overall survival and disease-specific survival. Multivariate analyses were adjusted for age, gender, body mass index, diabetes mellitus, cardiovascular disease, oesophagectomy, chemotherapy, radiotherapy and ACE inhibitor use.

Results In total 4445 cases of OC were identified, of which 606 were OAC and 344 were OSCC (histology data was available for 21.4% of patients). Overall 585 (13.2%) patients underwent oesophagectomy. In total 609 (13.7%) of patients were statin users