Results Of the 69 gastrectomies and 76 biopsies, 8.3% (n=12) were HER2-IHC positive (n=7, +2 and n=5, +3). HER2-SISH positivity was 4.8%(n=7). All IHC+3 were SISH positive, while two, +2 were SISH positive. Concordance for IHC 0, +1, +3 were 100%. There was a significant overall correlation (kappa=0.72, p<0.001) between HER2-IHC and HER2-SISH indicating substantial concordance. The mean overall survival of HER2-SISH negative and positive patients were 41.7(0–210) and 14.6(3–51) weeks respectively. The mean duration of follow up was 40.4 weeks (range 0–210). Survival was significantly poor(p=0.018) with HER2-SISH positivity.

Conclusions HER2-IHC was well concordant with HER2-SISH for 0, +1, +3 scores and could be used for treatment and prognostication in low resource settings. HER2-IHC+2 without gene amplification may be due to transcriptional activation by other genes or post-transcriptional events, mandating further evaluation by SISH. Survival of GC patients is significantly affected by HER2-SISH positive status.

P250 PERSONALISED MEDICINE: IS THIS THE WAY TO COMBAT HELICOBACTER PYLORI (HP) ERADICATION FAILURE?

[1]Cheh Kuan Tai, [1]SungJae Hwang*, [3]John Klein, [2]Katherine Woods, [2]Annette Jepson, [1]Vasu Kulhalli, [3]Giovanni Tritto, [1]Laura Marelli. [1]*Newham University Hospital, London, UK*; [2]*Homerton University Hospital, London, UK*; [3]*Guys and St Thomas' Hospital, London, UK*

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Introduction Antibiotic-resistant HP varies in different geographical areas. A recent review of international guidelines suggest evidence-based locally relevant treatment strategies. Within the United Kingdom, hospitals develop local antibiotic guidelines as per local resistance rates. However, Public Health England (PHE) recommendation for treatment regimes in primary care remains to be clarithromycin and metronidazole-based regimes for patients with dyspepsia who are HP positive. The Gastrointestinal Bacteria Reference Unit (GBRU), PHE is the national reference laboratory which tests all HP cultures in England. We aimed to look local HP secondary resistance data from 3 different units in London and compared whether variation in specimen collection practice impacted on rates of HP culture positivity.

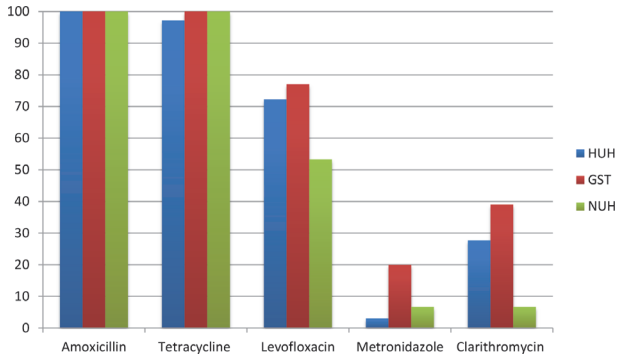
Methods We compared culture data from 3 different units in London. Due to differences in the local databases used, the date ranges of data collected was varied.

We obtained 34 months data between March 2016 and December 2018 from Homerton University Hospital (HUH). There were no local guidelines at HUH regarding number of biopsy samples taken and samples were transported to the lab routinely.

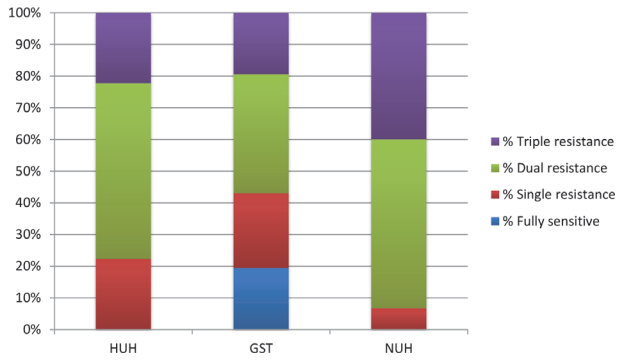
Culture data from Guys & St Thomas' Hospital (GST) was for 10 months between January to October 2019. At least 4 to 6 samples were taken on Monday to Thursday morning lists to ensure samples are sent to reference lab urgently.

Culture data from Newham University Hospital (NUH) was for 12 months from October 2018 to October 2019. At least 6 gastric biopsy samples were taken on a dedicated endoscopist's list on a weekday morning and samples were urgently transported by taxi to the laboratory.

Results 122 gastric biopsy samples were sent in HUH and 36 isolated HP, giving a 29.5% positive culture rate.



Abstract P250 Figure 1 Phenotypic HP sensitivities by hospital



Abstract P250 Figure 2 Percentage of antibiotic resistance by hospital

112 gastric biopsy samples were sent in GST and 72 isolated HP, giving a 64.2% positive culture rate.

34 gastric biopsy samples were sent in NUH and 15 isolated HP, giving a 44.1% positive culture rate.

Conclusion 38% of UK's foreign born population live in London. Variation in concentrations of migrant communities within a city can lead to variations in antimicrobial resistance. Our results are skewed towards resistant isolates as patients having gastroscopy and cultures taken for HP sensitivity would have had multiple courses of antibiotics. They suggest a benefit in tailoring local second line antimicrobial guidelines to local resistance rates. Given the lack of amoxicillin resistance, we recommend penicillin allergy testing for patients who report allergy.

Pancreas and neuroendocrine

P251 THE UTILITY OF FDG PET/CT IN THE DIAGNOSIS AND MANAGEMENT OF IGG4 RELATED DISEASE

[1]Bidour Awadelkarim*, [2]George Petrides, [3]Josephine Vila, [2]Tamir Ali, [1]John S Leeds, [1]Manu Nayar, [1]Kofi Oppong. [1]*HPB unit, Freeman Hospital, Newcastle Upon Tyne, UK*; [2]*Department of Radiology and Nuclear medicine, Freeman hospital, Newcastle upon Tyne, UK*; [3]*Department of Rheumatology, freeman Hospital, Newcastle upon tyne*

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Introduction IgG4 related disease (IgG4-RD) is a rare immune mediated fibroinflammatory condition that can affect nearly any organ. Pancreaticobiliary (PB) manifestations include autoimmune pancreatitis (AIP) and

cholangiopathy. [^{18}F]-fluorodeoxyglucose positron emission tomography/computed tomography (FDG PET/CT) is the only technique that allows imaging of metabolic activity by detecting FDG accumulation in cells and correlation with anatomical structures. Increased tracer uptake is typically seen in inflammatory or neoplastic tissue thereby potentially aiding diagnosis, and assessment of disease extent and activity. There is limited data currently available on its utility in IgG4-RD and whether this varies according to presentation. The aim of this study is to determine the utility of FDG PET/CT in diagnosis, monitoring disease activity and identifying multi system involvement.

Methods We performed a retrospective study of a prospectively maintained multi-disciplinary IgG4-RD database to identify patients who underwent FDG PET/CT over a 3-year period. Additional organ involvement and change in management consequent on FDG PET/CT was recorded. Fisher's exact test was used for the comparison of proportions.

Results 25 patients with a diagnosis or suspicion of IgG4-RD underwent FDG PET/CT between November 2016 and October 2019. The median age [IQR] at presentation was 59 [48.5–65.5], 18 (72%) were male. 15 (72.5%) suspected or proven PB disease, 6 (24%) head and neck (HN), 1 (4%) each of retroperitoneal, both PB and HN, pulmonary and renal. In 22 (88%) cases (15/15 PB, 7/10 non PB) FDG PET/CT findings had a direct impact on management. The difference in utility between PB (100%) and non-PB (70%) was not quite statistically significant (p=0.059). In 1 patient it enabled exclusion of PB IgG4-RD. In 15 (60%) it led to a decision to escalate therapy this included 3 AIP cases (21.4% of definite PB cases) in which new organ involvement was identified. In 6 cases (5 PB and 1 renal IgG4-RD) with concern of active disease because of persistently elevated or rising IgG4 levels it excluded FDG avid inflammation.

Conclusion In this retrospective study FDG PET/CT had a clinically important impact on management of IgG4-RD. Identifying other organ involvement as well as influencing therapeutic decision making particularly in PB disease. Further studies are required to fully delineate its role in IgG4-RD.

P252 URINARY VOLATILE ORGANIC COMPOUNDS AS A BIOMARKER FOR PANCREATIC CANCER

James Baker*, Prashant Aggarwal*, Elinor Chapman, Eithne Costello-Goldring, Bill Greenhalf, Chris Probert. *University of Liverpool, Liverpool, UK*; **JP and PA contributed equally and share first authorship**

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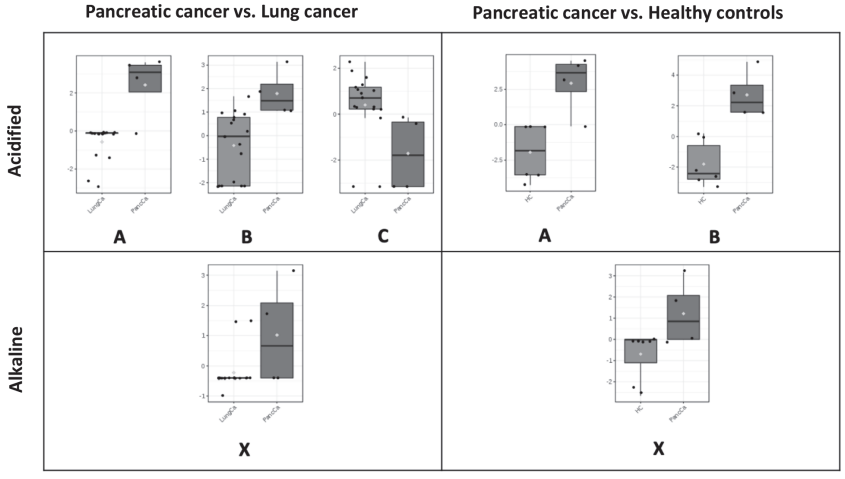
Introduction Pancreatic cancer is the 5th commonest cause of cancer mortality in the UK, with ca. 10,000 new cases of pancreatic cancer annually. Late diagnosis results in poor survival: 80% of cases present late. Volatile organic compounds (VOCs) have been investigated as biomarkers for many disorders. We report the first pilot study of urinary VOC biomarkers for pancreatic cancer using gas chromatography-mass spectrometry (GC-MS) analysis.

Method Urine was collected from patients with pancreatic cancer (n=4; mean age 66 ys, range 43–82 ys), lung cancer (n=17; mean age 61 ys, range 48–74 ys), and healthy controls (n=6; mean age 31, range 22–57). All samples were stored at -80°C. Later they were thawed, and 0.5 ml aliquots were placed in 10 ml headspace vials and either 0.1 ml of sodium hydroxide or sulphuric acid solution were added. GC-MS was performed. A library of VOCs was built using AMDIS and NIST software. We used the R package Metab and MetaboAnalyst software for data analysis. P values were reported based on t-tests, boxplots of fold change of potential biomarkers are shown (figure 1): compounds have been coded until IP is protected.

Results Acidified Results

2 compounds (A&B) were significantly more abundant in pancreatic cancer compared to lung cancer (p<0.0001 & p=0.008, respectively) and also vs controls (p=0.006 & p=0.002, respectively); a 3rd compound (C) was reduced in pancreatic cancer compared to lung cancer (p=0.021); and 6 additional compounds were significantly more abundant in pancreatic cancer compared to healthy controls (p<0.05; range: p=0.001–0.047).

After corrections for multiple comparison, 1 compound (A) remains raised with pancreatic cancer compared to lung cancer (FDR=0.001). Q^2, a performance marker of the PLS-DA model, is 0.5 suggesting a good predictor of group membership and no overfitting of data.



Abstract 252 Figure 1 Boxplots to show fold change of potential biomarkers for pancreatic cancer
Key: LungCa=Lung cancer, PancCa=Pancreatic cancer, and HC=Healthy controls
Letters A, B, C, and X denote coded compounds