had endoscopy within 24 hours. The median time-to-endoscopy for the sub group of COVID positive patients (n=6) was 17.5 hours (IQR16). A chi-squared test was used to compare the likelihood of those with COVID undergoing endoscopy <24 hours, compared to those who were COVID negative/unknown, and there was no significant difference (1.080 p=0.299).

38 re-bleeds occurred, and 37 deaths. COVID19 positivity was associated with a significantly increased risk of death when reviewed with a Chi squared test (4.46 p=0.035). However, COVID19 positivity was not associated with any increased risk of re-bleeding (0.009 p=0.922).

The number of cases of AGIB, and monthly median time to endoscopy, varied considerably but there was a strong correlation between the two over the 14 month study period, see figure 1. The month of April 2020 had the lowest number of cases at only 6, a figure that is an outlier at >1.5 standard deviations from the mean for the study period. Reductions in the incidence of AGIB seemed to coincide with national lockdowns.

Conclusion Patients with COVID19 and AGIB had a high risk of death, even though the data would suggest this death was not from re-bleeding. It is more likely that AGIB is a sign of physiological strain from COVID 19 infection.

We showed that AGIB cases reduced markedly at the first lockdown, which suggests that patients were not willing (or perhaps able) to present to secondary care services. This pattern was replicated during lockdowns 2 and 3. However, further review over a broader time period would be required, to further explore this observed phenomenon.

If we are using the 'time-to-endoscopy' as a surrogate marker of standards of endoscopy services, our trust appears to have offered its best AGIB service during this first lockdown. This may represent reduced strain on the service. We were able to offer a comparable time-to-endoscopy to those patients who were COVID positive. The overall median time to endoscopy was comparable to the figure of 21.2 hours, found by *Siau et al.* (*Siau et al.*, 2019) in the multi-site audit of 2017.

Abstract PTH-89 Figure 1

Learning from how our services have performed in this pandemic will help us prepare ourselves in case of future similar challenges.

REFERENCE

1. Siau, K. *et al.* (2019) 'Time to endoscopy for acute upper gastrointestinal bleeding: Results from a prospective multicentre trainee-led audit', *United European Gastroenterology Journal*. doi: 10.1177/2050640618811491.

Pancreas and neuroendocrine

PTU-67 DIFFERENTIAL EXPRESSION OF THE POTASSIUM OF VOLTAGE-GATED CHANNEL SUBFAMILY MEMBERS, KCNH

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Introduction Human pancreatic cancer is an intractable malignancy and is the seventh leading cause of cancer deaths worldwide and the fifth leading cause in the UK. Pancreatic cancer has ranked the 11th most common cancer in the world and the UK. The incidence and mortality of pancreatic cancer are linked with aging and is more favorable in men than in women. The dominant risk factors of pancreatic cancer remain vague and the 5-year survival rate remains poor (~9%) despite clinical advances. Voltage-gated potassium (Kv) channels are known to modulate varied functions of epithelial cells in pancreas and its ion transportation, a function partly regulated by calmodulin related proteins. The dysregulation or alterexpression of potassium channels in pancreatic cancer has yet been fully characterised. In this study, we evaluated the transcript expression levels of KCNH1, KCNH2 and KCNH3 in pancreatic cancer and their clinical and prognostic significance.

Methods Pancreatic tissues including tumour tissue sections and their adjacent normal tissue sections from a cohort of patients in our lab (n=223). The gene transcripts of the three KCNH members were quantified in the tissues and analyses were carried out against the clinical, pathological and outcome factors of the patients.

Results We find that there is a significant difference in the expression of KCNH1 and KCNH2, but not KCNH3 in pancreatic tumour tissues compared with normal tissues p=0.011 for KCNH1 and p=0.015 for KCNH2). Overall, adenocarcinomas exhibited higher levels of all three KCNH than ductal carcinomas of the pancreas. KCNH members do not appear to have a clearly link to the staging of pancreatic cancer and only showed a weaker link to the survival of the patients. In our cohort database, we have identified that All three KCNH were found to have significantly correlated with a tumour repressor molecule, MTSS1/MIM (Metastasis Suppressor-1/Missing In Metastasis) (r=0.602, 0.469 and 0.508 for KCNH1, KCNH2 and KCNH3, respectively, p<0.0001 by Spearman test). It was further demonstrated that KCNH1 and MTSS1/MIM collectively is a risk factor for the death of the patients (HR 1.607, p=0.017) in predicting pancreatic cancer related survival (Mean survival 15.8±2.6 months versus 28.1±3.8 months for patients with high and low aberration of KCNH1 and MTSS1, p=0.008).

Conclusion KCNH family is aberrantly expressed in clinical pancreatic cancer and together with MTSS1/MIM offer a prognostic factor for the survival of the patients.

PTU-68 THE EXPRESSION AND CLINICAL SIGNIFICANCE OF MLN64 IN HUMAN PANCREATIC CANCER

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Introduction Aberration of MLN64 (Metastatic Lymph Node Protein 64), also known as StARD3 (StAR Related Lipid Transfer Domain Containing 3), has been reported in endocrine related cancers including breast and prostate cancers and found to be present in insulinoma cells. The present study evaluated the clinical and prognostic values of MLN64 to clarify its role in human pancreatic cancer.

Methods Human pancreatic cancer cell lines, PANC1 and MIA PaCa-2 were used. The levels of MLN64 gene transcripts were quantitatively evaluated in a cohort of human pancreatic cancer with matched normal tissues. The expression of the transcripts were evaluated against the clinical, pathological and outcome parameters of the patients.

Results Pancreatic cancer tissues had a markedly increased levels of MLN64 (Median (Q1-Q3)): 4.85 (0-61) compared with normal tissues (0.03 (0-7.6)) ($p < 0.001$). It was also revealed that MLN64 in tumours of patients who died of pancreatic cancer during the followup period had a significantly highly levels of MLN64 (7.66 (0-20)), compared with those who survived (0.02 (0-72.5)) ($p < 0.01$), further indicating MLN64 as a significant prognostic factor (HR 8.37, $p < 0.01$). Our data also revealed node positive pancreatic tumours had a significantly higher levels of MLN64 than node negative tumours ($p < 0.05$), although no significant difference was seen between those with distant metastases and those without. Significant correlation was also found between MLN64 and the Her family members, namely Her4 ($p < 0.001$) and Her3 ($p < 0.05$) and that the combining the pattern of expression of MLN64 and Her4 further enhance the power in predicting outcomes of the patients. Using our pancreatic cancer cell models, we have demonstrated that blocking Her family kinases using a pan-Her inhibitor, namely Nerlynx and a key cell migration regulator, phospholipase C-gamma1 (PLC γ 1), had a marked impact on cellular migration and adhesion of pancreatic cancer cells, key functions observed with MLN64 in cancer cells.

Conclusions MLN64/StARD3, one of the key regulators of cancer cells, has an aberrant expression in human pancreatic cancer which is linked to the clinical outcome. With its role in cancer cells and discovery of inhibitory means to MLN64/StARD3, the molecule presents a good target for therapeutic considerations in pancreatic cancer.

PTU-69 AUGMENTING THE EFFECT OF SONODYNAMIC THERAPY AGAINST PANCREATIC CANCER USING HEMATOPORPHYRIN-CARRYING NANOPARTICLES

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Introduction Sonodynamic therapy (SDT) is an emerging, minimally invasive therapeutic approach with the potential to treat a variety of recalcitrant cancers, including pancreatic cancer. The treatment involves the use low intensity ultrasound in combination with non-toxic agents, known as sonosensitizers, for the site-specific ablation of tumours. After systemic administration of the sensitizing agent, the application of ultrasound can be performed extracorporeally, endoscopically or intraoperatively. This study evaluates the effectiveness of SDT using a new nanoparticulate formulation carrying hematoporphyrin in the in vitro treatment of human pancreatic cancer cells.

Methods The human BxPC-3 cell line was used as an in vitro model for pancreatic adenocarcinoma. The target cells were incubated with free hematoporphyrin (free HP) and hematoporphyrin-containing nanoparticles (HPNP) that were formed by self-assembly with a polyglutamate-tyrosine co-polymer, in order to determine the cytotoxicity in the absence of ultrasound. Cells were treated with HPNP combined with ultrasound irradiation for determining the effect of SDT. These effects were examined at normoxic and hypoxic conditions, at pH 6.4 and pH 7.4.

Results The HPNP nanoparticles showed increased toxicity against the target cell line, when compared with free HP. The HPNP toxicity was further enhanced at acidic conditions and this is particularly important for confining the ablation effect within the acidic pancreatic tumour mass. Utilising the nanoparticle carrier, cellular uptake of hematoporphyrin was significantly increased compared to the free HP ($p < 0.0001$), at both acidic and physiological pH. SDT, at varying ultrasound treatment conditions and at both normoxic and hypoxic environment, demonstrated a clear cytotoxic effect against the BxPC-3 cell line ($p < 0.001$), while toxicity of ultrasound alone or the nanoparticles alone was minimal.

Conclusion BxPC-3 cells have significant positive response to treatment with SDT. Further preclinical experimentation is currently being carried out in experimental animals to evaluate the effect of SDT in vivo for supporting the clinical translation of this promising therapeutic modality in the treatment of pancreatic cancer.

PTU-70 PANCREATIC ENZYME REPLACEMENT IN UNRESECTABLE PANCREATIC CANCER: A RETROSPECTIVE STUDY FROM A DISTRICT GENERAL HOSPITAL

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Introduction Advanced pancreatic cancer has a poor prognosis and is associated with pancreatic exocrine insufficiency (PEI) causing weight loss and cachexia. Pancreatic enzyme replacement therapy (PERT) is recommended by the National Institute for Health and Care Excellence (NICE) for patients with unresectable pancreatic cancer but is often not prescribed despite evidence it can improve quality of life and survival. The aim of this retrospective study was to assess adherence to the NICE recommendations on the use of PERT and its impact on patient survival.

Methods Patients with a radiological or histological diagnosis of unresectable pancreatic cancer were identified from a retrospective cancer multidisciplinary team database in a district general hospital from January 2017 to August 2019. Patient demographics and survival from time of diagnosis were compared for patients treated with and without PERT. T-tests and Chi-squared tests were used as appropriate.

Results 166 patients diagnosed with unresectable pancreatic cancer were identified, 80 (48%) were treated with PERT. Median age was 75 years in the PERT group versus 79 years in the no PERT group ($p = .014$).

The PERT group were more likely to have better performance status (performance status ≥ 3 , 33% vs 56% ($p = 0.024$), less likely to have advanced disease (stage ≥ 3 , 33% vs 56%