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OTU-28 DON'T ASK, WON'T TELL: IMPROVING ALCOHOL SCREENING AND HOSPITAL ALCOHOL TEAM REFERRALS IN A&E

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Introduction This Hospital's Alcohol Team provides a 7-day service, cited in the 10 Year NHS England Plan as having improved the quality of alcohol-related care. The Alcohol Team receive over 1700 referrals per year – predominantly from assessment wards where screening for potential alcohol issues of new admissions is mandatory and routine. Alcohol screening had not traditionally been routine for A&E patients. There were concerns that the introduction of mandatory screening might risk complicating patient assessment, treatment and timely discharge. Initiatives were introduced to increase the incidence of screening in A&E. An analysis was undertaken on the impact of these initiatives on referrals and patients.

Methods

Initiatives introduced in 2018 1) Partnership working between A&E and Hospital Alcohol Team;

- Development of an Alcohol Assessment sticker, for optional incorporation into patient A&E notes, to facilitate the identification and management of potential alcohol issues ;
- Training targeted to A&E Nurses;
- A&E Link Nurse developed promotional displays and acted as a champion in A&E to raise awareness.

Referral data was audited to assess the impact of the initiatives on referrals. A 10% randomised sample of referrals was

further analysed to assess the impact of the increase in referrals. Case Studies were captured to illustrate the benefits of earlier identification of alcohol issues.

Results There was a 16% increase (240 patients) in total referrals received: 1523 (2017) to 1763 (2018). A&E referrals rose 79% from 217 to 389. This is against a back-drop of the rate of hospital admissions attributed to alcohol, nationally and locally, remaining broadly flat. 59% of patients referred to the Alcohol team were discharged from A&E (compared to 55% in 2017); the average length of stay of those discharged patients was 5.6 hours (compared to 6.0 hours in 2017), and 48% of these patients were discharged in under four hours (compared to 42% the previous year). Specific cases were captured in case studies to illustrate the mechanisms through which early identification of potential alcohol issues can lead to better management of alcohol-related issues, facilitate safe discharge and reduce length of stay.

Conclusions The screening, education, and partnership initiatives led to an increase in referrals from A&E to the hospital alcohol team. An audit of referrals suggests the earlier identification of alcohol-related issues in A&E has not had negative impacts on discharges and length of stay from A&E. In practice the Alcohol Team has found that earlier identification of potential issues has enabled them to intervene earlier to improve the management and timely discharge of patients.

Abstracts of Distinction

ATU-10 TARGETING HISTOPATHOLOGY WORKLOAD CRISIS USING ATTENUATED TOTAL REFLECTION FOURIER TRANSFORM INFRARED (ATR-FTIR) SPECTROSCOPY

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Introduction For the past 200 years histopathology has been the gold-standard for identification of many diseases. Biopsy procedures typically generate 1–0 sample sections for analysis,

Abstract ATU-10 Figure 1

the whole process is time consuming and expensive. The Royal College of Pathologist recently published a workforce census showing that only 3% of NHS histopathology departments have enough staff to meet clinical demand [1] as consequence the reported waiting time for exam results is currently up to 14 weeks. This leaves us in desperate need of a change [2]. DynamX is developing a system that will allow to identify healthy samples within 15 seconds, removing unnecessary histopathological analysis, creating a faster route to treatment, when necessary, together with the possibility of more screening programs.

Methods We combine infrared spectroscopy, biological information, machine learning and artificial intelligence to extract information from a tissue sample. A schematic representation of the process is given in the picture below. Each sample has a its own FTIR fingerprint that once acquired can be used to distinguish between healthy and abnormal cells. Our algorithm has the potential to be coupled with any commercially available hardware.

The biopsy is scanned immediately after resection, no sample preparation is required so the sample can re-enter the routine diagnostic pathway if necessary.

Results A 400 patient multicentre phase 2 IVD clinical trial (ISRCTN 33779, IRAS196045), focused on oesophageal and colon cancer screening has been recently completed. Primary objective of the trial was to evaluate the validity of the algorithm in discriminating among healthy and abnormal cells. Secondary objective consisted in testing and implementing our user interface. Over 1600 biopsies/polyps were analysed and unique spectral differences were identified. The algorithm achieved 96% sample sensitivity and 56% sample specificity. Human Factors analysis of the software was performed following study completion, along with feedback from a focus group with study nurses from the clinical trial, allowing for a rigorous assessment of the common problems.

Conclusions Results of the completed clinical trial were extremely positive. DynamX technology showed the potential to be particularly beneficial to the time and price allocated for each histopathological exam and to assist in the assessment of the disease. The study allowed us to collect a broad variety of samples to build up our internal library. In order to expand our technology to diagnose a larger variety of diseases a clinical trial involving 450 patients on detection of presence of infrared biomarkers for cancer in cheek cells is about to start.

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Posters

PTU-073 ARE GI CANCERS BEING DIAGNOSED FROM OUTSIDE THE 'TWO WEEK WAIT' REFERRAL?

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Introduction The UK lags behind Europe in the diagnosis, treatment and survival rates of cancer. To improve on this

and diagnose cancer early, patients with alarm symptoms from primary care are referred on a 'Two week wait' (2WW) pathway. Previous data indicates that the majority of cancers diagnosed in the UK are from outside the 2WW pathway. However, demand for upper and lower GI endoscopy via the 2WW has risen dramatically above and beyond the steady increase in overall GI cancer incidence. We aimed to study the diagnostic pathways via which GI cancers are diagnosed.

Methods We reviewed the common luminal upper and lower GI cancers diagnosed at endoscopy at a single centre between February 2017 and September 2018 via Unisoft GI Reporting Tool. Known malignancies and diagnoses made at other Trusts were excluded (n= 72). Retrospective analysis of 317 patients with 332 GI cancers was performed.

Results 332 GI cancers (oesophagus 44 (13.9%), stomach 21 (6.6%), duodenum 6 (1.9%), colon 174 (54.9%), rectum 87 (27.4%)). Mean age 71.1 (range 24 - 97), Female 133 (42.0%).

Median time to diagnosis (i.e. presentation to endoscopy) was 22 days (IQR 14 to 34).

Referral pathways included 202 (63.7%) GP Target 2WW, 45 (14.2%) Inpatient, 30 (9.5%) Urgent 2WW from clinic/hospital discharge, 21 (6.6%) Abnormal imaging, 17 (5.4%) Routine clinic, 2 (0.6%) Surveillance.

Only 48 (15.1%) GI cancer patients went 'Straight To Test' (STT) whereas 198 (62.5%) were seen in clinic first. The mean time to diagnosis in those referred via the GP Target 2WW was 25.4 days (STT) versus 32.2 days (clinic review), (p = 0.05).

Abstract PTU-073 Table 1 Pathways to diagnosis for individual GI cancers (+ STT/clinic/A&E)

	All GI Cancers (n=332)	Oesophagus n=44	Gastric n=21	Colon n=174	Rectum n=87	p value
Age (mean, s.d)	71.1 (13.5)	73.8 (11.6)	71.8 (17.8)	71.5 (13.2)	68.0 (13.7)	0.10
Time to diagnosis (median, IQR)	22 (1-4)	19 (-8)	11 (-8)	24.5 (1-8.75)	23 (1-3)	0.27
GP '2WW' Pathway (%)	202 (63.7)	25 (56.8)	7 (33.3)	109 (62.6)	69 (79.3)	0.0003
STT (%)	48 (15.1)	9 (20.5)	2 (9.5)	24 (13.8)	13 (14.9)	0.63
Curative Treatment (%)	204 (64.4)	13 (29.5)	2 (9.5)	129 (74.1)	65 (74.7)	<0.00001

Conclusions In this study, we conclude that two thirds of GI cancers were diagnosed following referral via the 2WW pathway but only one third of gastric cancers. Of the 2WW patients, two thirds had a clinic review prior to endoscopy which resulted in a 7 day delay in cancer diagnosis compared to STT patients. We conclude that more patients with cancer are diagnosed on the 2WW pathway than previously documented and triaging patients STT speeds up the diagnosis further by 7 days. We recommend that the majority of 2WW patients be triaged STT so that earlier diagnosis of cancer may result in improved survival and reduce the gap compared to our European counterparts.