PTU-058 FREQUENCY AND CHARACTERISTICS OF HIGH-RISK COLORECTAL POLYPS IN A NON-TERTIARY ENDOSCOPIC MUCOSAL RESECTION (EMR) SERVICE

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Introduction Recent guidelines and published data of large colorectal polyps.^{1 2} suggest polyp characteristics associated with an increased risk of submucosal invasive cancer (SMIC) which might be best managed with en bloc resection. Data regarding the frequency and characteristics of such lesions are limited outside of tertiary centres. Our endoscopy screening centre is a district general hospital (DGH) providing EMR service for a population of around 5 50 000. We aimed to evaluate the frequency of large colorectal polyps with an increased risk of malignancy to plan further service provision for these lesions in the DGH setting.

Methods The hospital endoscopy database was interrogated to identify all colorectal EMRs for large polyps (>20 mm) performed from Jan 2014–Sept 2017. The data was retrospectively audited for polyp size, site, Paris classification, histology and cancer risk factors.

Abstract PTU-058 Table 1 Characteristics of lesions

Number of patients n (%)	183 (100%)	Polyp size Mean (SD)	32 (±13)
Age Mean (SD)	69 (±12)	Paris classification	
Sex		0-Ip	7 (3%)
Male	105 (51%)	0-Is	97 (48%)
Female	99 (49%)	0-Isp	50 (25%)
ASA class		0-IIa	14 (7%)
1	135 (66%)	0-Is+IIa	35 (17%)
2	63 (31%)	0-IIa+IIc	1 (0%)
3	6 (3%)	Major histology	
Number of lesions n (%)	204 (100%)	Adenocarcinoma	17 (8%)
Polyp site		Others	4 (2%)
Appendix	0 (0%)	SSL	13 (6%)
IC valve	3 (1%)	Tubular adenoma	20 (10%)
Caecum	20 (10%)	Tubulovillous adenoma	150 (74%)
Ascending colon	23 (11%)	*Plus-minus values are mean ± SD	
Hepatic flexure	4 (2%)	† American Society of Anaesthesiologists	
Transverse colon	10 (5%)	‡ Sessile serrated lesion	
Splenic flexure	4 (2%)		
Descending colon	7 (3%)		
Sigmoid	35 (17%)		
Rectosigmoid	22 (11%)		
Rectum	76 (37%)		

Abstract PTU-058 Table 2 Cancer risk factors

	Distal			Proximal		
	Group A*	Group B†	Totals	Group A	Group B	Totals
Paris class						
0-Ip	7 (100%)	0	7	0	0	0
0-Is	47 (75%)	16 (25%)	63	23 (68%)	11 (32%)	34
0-Isp	27 (66%)	14 (34%)	41	5 (56%)	4 (44%)	9
0-IIa	4 (80%)	1 (20%)	5	5 (56%)	4 (44%)	9
0-Is+IIa	22 (79%)	6 (21%)	28	5 (71%)	2 (29%)	7
0-IIa+IIc	0	0	0	1 (100%)	0	1

* No dysplasia or low-grade dysplasia
† High-grade dysplasia or adenocarcinoma

Results A total of 239 lesions were identified over a 45 month period. 35 (15%) lesions were excluded from further analysis owing to lack of data on either size, Paris classification or histology. 204 lesions (183 patients) with complete data were further analysed. Of 183 patients, the mean age was 69, (M: F 105:99). The mean size of polyps was 32 mm. 144 (60%)

were distal lesions. 17 (8%) lesions were found to have cancer in the resected histological specimen. Table 1 summarises the characteristics of the lesions analysed.

The incidence of HGD and cancer were further analysed according to size, location and Paris classification. There were 41 polyps with HGD (22%) and 17 (8%) with SMIC in our cohort with most lesions being distal, 0–1 s and <40 mm. Table 2 summarises the histology (Group A and Group B) lesions according to site and Paris classification. Additionally, 69 (34%) lesions showed polyp characteristics associated with an increased risk of covert SMIC in previously published data (IIc or 0-Is, Is +IIa with distal location).²

Conclusion High-risk lesions (HGD/cancer) comprised 30% of the total cohort and those potentially associated with covert SMIC (IIc and distal Is/Is+IIa lesions) formed 34% of the cohort. From our data, up to 32 lesions per year may necessitate en bloc resection.^{1 2} This audit has identified the need to plan for service provision in a DGH for large colorectal polyps including potential referral pathways to achieve en bloc resection of lesions with a higher potential for SMIC.

REFERENCE

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2. Burgess N, et al. *Gastro* 2017.

PTU-059 NOVEL URINARY AND BLOOD PEPTIDE MARKERS FOR DETECTION OF COLORECTAL CANCER – EARLY RESULTS

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Introduction The establishment of screening programmes and the two week wait pathway (2WW) to detect CRC is still largely dependent on invasive and expensive endoscopic/radiological methods. There remains a quest for early detection of colorectal cancer (CRC) using non-invasive methods which are well tolerated and patient acceptable. The aim is to identify putative peptide markers for CRC in urine and plasma.

Methods Urine samples from 12 CRC, 6 colorectal adenomas and 6 controls were evaluated in respect to their peptide profiles by capillary electrophoresis-mass spectrometry (CE-MS). The urinary peptide profiles were compared to those of plasma from another cohort of CRC patients (n=16) and controls (n=17) to search for CRC peptide markers differentially expressed both in blood and urine. This was followed by *in silico* protease prediction for those CRC peptide markers in plasma for which the amino acid sequence could be resolved.

Results From the 392 plasma and 158 urinary CRC peptide marker candidates, ten were found identical and 16 showed sequence overlap demonstrating their origin from the same protein and protein region. Combining these 26 peptides to a support vector machine classifier resulted in the differentiation of the 12 CRC from the 6 colorectal adenomas and 6 controls with a sensitivity of 1.0 (CI:0.84–1.00) and a specificity of 0.92 (CI: 0.84–1.00) after total cross validation.

Conclusions Peptide identification in urine and plasma shows promise as non-invasive markers for CRC. Further work is underway to validate the specific proteases predicted to be responsible for peptide marker generation at tissue level.