CRC screening (direct measurement: adjusted odds ratio (AOR)=1.26, 95% confidence interval (CI)=1.10–1.45, $p<0.001$; for indirect measurement: AOR=1.23, 95% CI=1.08–1.41, $p<0.01$) were significantly associated with CRC screening uptake (table 2).

Conclusions The variables pertinent to the TPB could successfully predict the uptake of CRC screening. Promotion of CRC screening based on enhancing perceived behavioural control as well as behavioural intention could be effective in increasing screening uptake. Further studies are needed to establish a cause-and-effect relationship between these variables and uptake, as well as to evaluate the cost-effectiveness of such interventions.

IDDF2018-ABS-0149 **MANIPULATION OF GUT MICROBIOTA IN IN VITRO MODEL OF COLORECTAL CANCER: POSITIVE EFFECTS OF LACTOBACILLUS RHAMNOSUS AGAINST FUSOBACTERIUM NUCLEATUM**

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Background Colorectal cancer (CRC), a leading cause of morbidity and mortality worldwide, is affecting more than 1.36 million people every year. It is a well-known multifactorial disease, and the aetiology is a complex interaction between genetic, lifestyle and environmental factors. However, there has been a general consensus exists that the composition of the human intestinal microbiota is linked to health status. They mainly play a role in modulating normal gut immune function, and most of them are largely beneficial to human. *Fusobacterium nucleatum* is an anaerobic oral commensal and a periodontal pathogen associated with a wide spectrum of human diseases. Findings from human and animal models have revealed that *fusobacterium nucleatum* plays a role in colorectal carcinogenesis by suppressing the immune response of the hosts to tumour. The aim of the present study is to determine the role of a probiotic strain in competing with a selected colorectal cancer pathogen.

Methods Thus, *lactobacillus rhamnosus* was investigated *in vitro* to examine its ability to protect, displace and compete with *fusobacterium nucleatum*. In this study, three different types of assay (protection assay, displacement assay and competitive assay) were performed using SW480, a colorectal cancer cell line as a host cell. Cell proliferation assay was applied to determine the proliferation rate of the cells by measuring the cell metabolic activity.

Results In a competitive assay, *lactobacillus rhamnosus* showed greater ability of adherence to host cells than *fusobacterium nucleatum* with a ratio of 1400:1. *Lactobacillus rhamnosus* could significantly decrease the proliferation rate induced by *fusobacterium nucleatum* in protection assay ($p<0.001$). In addition, the proliferation rate induced by *fusobacterium nucleatum* was also decreased up to 48.6% in displacement assay by *lactobacillus rhamnosus*.

Conclusions This finding may suggest that *lactobacillus rhamnosus* could help limiting cell proliferation of the cancerous

cells in response to pathogens. In conclusion, *lactobacillus rhamnosus* has a positive impact in reducing the risk of colorectal cancer and possibly an option for preventive.

IDDF2018-ABS-0152 **THE PREOPERATIVE CEA CAN BE AN INDEPENDENT PREDICTIVE FACTOR FOR COLORECTAL CANCER PATIENTS AFTER CURATIVE RESECTION IN LONG-TERM OUTCOME**

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Background The preoperative carcinoembryonic antigen (CEA) level as a prognostic factor of colorectal cancer (CRC) has been in debate.

Methods A consecutive case series were collected from our database of CRC from 1995 to 2010. Clinicopathological factors were matched by propensity score methods with calliper width of 0.05 and a 1:4 ratio. Long-term overall survival (OS) and disease-specific survival (DSS) were analysed and compared between 3 different serum CEA levels.

Results A total number of 9634 patients were included initially. After exclusion and matching, a number of 6099 cases were matched by propensity score matching methods with median follow-up period 86 months.

The survival analysis showed poor OS in elevated serum CEA groups than normal CEA level (5 year survival rate: 75% vs. 66% vs. 61%) and was also presented in both subgroups divided by lymph node (LN) stage (LN positive: 69% vs. 56% vs. 50%, LN negative: 83% vs. 77% vs. 72%) but not between elevated groups. In contrast, DSS showed significantly poor outcome between each group and was proportional to serum CEA elevation (5 year survival rate: 83% vs. 76% vs. 69%, $p<0.03$ between each group) and in LN negative subgroup (5 year survival rate: 92% vs. 87% vs. 82%). In contrast, the elevated CEA in LN positive subgroup showed poor DSS (5 year survival rate: 75% vs. 65% vs. 56%) than non-elevated group ($p<0.001$) but not between elevated groups ($p=0.064$).

In multivariate Cox regression model after adjusted with TNM stage, smoking, DM, renal insufficiency, liver cirrhosis and other factors, elevated CEA showed higher risk in DSS (5 to 10 ng/ml HR=1.540, >10 ng/ml HR=1.910, both $p<0.001$).

Conclusions Elevated preoperative serum CEA can be an independent prognostic factor for stage I to III CRC patients after curative resection with poor long-term overall and oncological outcome.

IDDF2018-ABS-0158 **ENDOSCOPIC PREDICTORS OF THE DEPTH INFILTRATION OF COLORECTAL LATERALLY SPREADING TUMOURS**

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Background To assess the validity of the pit patterns Kudo classification and the NBI international colorectal endoscopic (NICE) classification on detection of the depth infiltration of colorectal laterally spreading tumours (LST).

Methods Colorectal laterally spreading tumours were collected from digestive endoscopy centre of PLA army general hospital from Mar. 2010 to May 2016. There were 250 LSTs were mucosal stained, grouped according to pit patterns Kudo classification; 208 LSTs were observed by NBI, grouped according to NICE classification. Then compared the pit patterns classification and NICE classification with pathologic diagnosis, separately.

Results The pit pattern of the most LST was type IIIL (30.56%) and IV (32.94%). V pit pattern which signifies the cancerated metaplasia has large proportion in granular-nodular mixed (LST-GM) and non-granular-flat-elevated (LST-NGF), 29.11% and 41.93% respectively. In the LST – GM, V1 accounted for 24.05%, and In LST – NGPD V_N accounted for 19.35%, higher than other subtypes. The accuracy of type V for predicting submucosal invasion is 100%, the accuracy of type V_N for predicting colorectal early cancer is 100%, for predicting submucosal invasion is 58.33%. There were 101 LSTs with low-grade dysplasia; all the lesions were NICE2 type, 59 LSTs with high-grade dysplasia, 93.22% (55/59) for NICE2 type, 6.78% (4/59) for NICE3 type. A total of 13 cases were submucosal carcinoma (SM-d), 61.54% (8/13) for NICE2 type, 38.46% (5/13) for NICE3 type.

Abstract IDDF2018-ABS-0158 Table 1 Pit patterns and clinicopathological characteristics of LST

	Pit Patterns							n
	I	II	III _L	III _S	IV	V _I	V _N	
Pathological type								
Inflammatory polyp	6 (75.00)	2 (6.25)	4 (5.19)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	12
Serrated lesions*	2 (25.00)	26 (81.25)	6 (7.79)	0 (0.00)	2 (2.41)	0 (0.00)	0 (0.00)	36
LGIN								
Tubular adenoma	0 (0.00)	3 (9.38)	57 (74.03)	1 (20.00)	9 (10.84)	2 (6.06)	0 (0.00)	72
Villous adenoma	0 (0.00)	1 (3.13)	6 (7.79)	0 (0.00)	53 (63.86)	5 (15.15)	0 (0.00)	65
HGIN	0 (0.00)	0 (0.00)	4 (5.19)	4 (80.00)	19 (22.89)	20 (60.61)	5 (41.67)	52
SMC	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	6 (18.18)	7 (58.33)	13
Total	8	32	77	5	83	33	12	250

*Serrated lesions: a group of lesions characterised by serrated epithelium, including hyperplastic polyp(HP), traditional serrated adenoma(TSA) and sessile serrated adenoma/polyps (SSA/Ps). LGIN, low grade intraepithelial neoplasia; HGIN, high grade intraepithelial neoplasia; SMC, submucosal carcinoma.

Conclusions In terms of LSTs, the type IIIL is the predominant pit pattern in LST-NG, whereas the type IV pit pattern occurs in the LST-G, the pit pattern V and NICE3 indicate the large possibility of submucosal invasion, should be noticed by endoscopic physicians.

IDDF2018-ABS-0159

ENDOSCOPIC CHARACTERISTICS OF COLORECTAL LATERALLY SPREADING TUMOURS

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Background To analyse the endoscopic characteristics and therapeutic methods of colorectal laterally spreading tumours.

Methods Colorectal laterally spreading tumours were collected from digestive endoscopy centre of PLA army general hospital from Mar 2010 to May 2016. Their relationship between morphology? predilection site and histopathology were analysed retrospectively.

Results A total of 615 colorectal laterally spreading tumours (551patients) were collected. The average diameter of lesion was 22.2±14.7 mm, the size was from 10 to 20 mm in the most (66.5%), and LSTs were predominant in the proximal colon (55.4%). Granular-homogenous(LST-GH) was detected more frequently in the ileocecal region and ascending colon (75/140,53.7%); Granular-nodular mixed (LST-GM) was detected more frequently in the rectum and sigmoid colon (91/140,65.0%); Non-granular-flat-elevated (LST-NGF) and non-granular-pseudo-depressed (LST-NG-PD) were preferentially located in the proximal colon, especially more common in transverse colon, account for 25.9% and 32.1% respectively. Among lesions intramucosal carcinoma and submucosal carcinoma was 19.67% (121/615), submucosal carcinoma was 3.25% (20/615). LST-GM and LST-NGPD had a higher incidence of intramucosal carcinoma and submucosal carcinoma compared to the other subtypes, 43.28% and 34.52%, respectively. LST-NGPD was highest rates of submucosal invasion: 14.29%? LST-GM was predominant in the rectum; the mean tumour size was larger in the rectum than the colon (31.49±23.09 vs 20.82±9.86,p<0.05), higher incidence of high-grade dysplasia and submucosal carcinoma (36.43% vs 14.95%, p<0.001).

Abstract IDDF2018-ABS-0159 Table 1 Clinicopathological characteristics of the lesions

	Colon, n=475	Rectum, n=140	p value	All, n=615
Age, medium (range)	61 (17–92)	64 (31–88)	<0.05	62 (17–92)
Male gender	281 (59.16)	78 (55.71)	0.47	359 (58.37)
Subtypes of LST			<0.05	
LST-GH	109 (22.95)	31 (22.14)		140 (22.76)
LST-GM	78 (16.42)	62 (44.29)		140 (22.76)
LST-NGF	216 (45.47)	35 (25.00)		251 (40.81)
LST-NGD	72 (15.16)	12 (8.57)		84 (13.66)
Size, mean±SD(mm)	20.82±9.86	31.49±23.09	<0.05	23.25 ±14.69
Histological classification			<0.0001	
Low-grade dysplasia	275 (57.68)	74 (53.57)		349 (56.75)
High-grade dysplasia	58 (12.21)	44 (31.43)		102 (16.59)
Submucosal cancer	13 (2.74)	7 (5.00)		20 (3.25)