P1253

What is the Culprit Lesion for Interval Cancer after Complete Colonoscopy?

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Background

Interval cancer (IC) has become a focus of attention as likely representing "missed" or "rapidly-growing" lesions in colonoscopic screening for colorectal cancer (CRC). It is currently assumed in Western countries that sessile serrated adenoma/polyps (SSA/P) may be the likely culprit lesion for IC in many cases.

Objective

To determine the culprit lesion for IC.

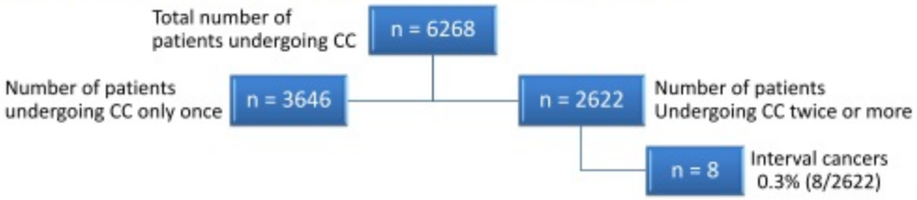
Methods

This study included a total of 6268 patients (females/males, 2386/3882) undergoing complete colonoscopy (CC) procedures performed by the same single endoscopist (TF) at TFCL during the period between 2003 and 2015. IC was defined as all T1/T2 tumors detected during CC within 3 years following the CC procedures with removal of all neoplastic lesions.

Results

All the patients undergoing CC at TFCL were divided into those undergoing CC only once (n = 3646) and those undergoing twice or more (n = 2622). IC was found in 8 of the 2,622 patients (0.3%) undergoing CC twice or more (Fig.1). The macroscopic appearance of IC detected in the 8 patients was all flat and depressed (IIa + IIc T2 lesion, 2; IIa+IIc, 1; LST-NG, 5). Again, of the 8 IC lesions detected, 1 was located in the cecum, 1 in the ascending colon, 3 in the transverse colon, 1 in the descending colon, and 2 in the rectum, with the mean tumor diameter being 22.6 mm (13-35 mm) and the depth of invasion being T1 (superficial invasion) in 3, T1 (deep invasion) in 3 and T2 in 2. Therapeutic endoscopic procedures were required in 4 (EMR, 2; P-EMR, 1; and ESD, 1), surgical resections required in 4, and lymph node metastasis found in 1. In this last case, the lesion was shown to be a IIa + IIc T2 lesion measuring 18 mm and present in the recto-sigmoid curve. In this patient, a total of 5 polyps were removed in the CC performed 1 and 2 years ago, while a mean total of 3 polyps were found prior to detection of IC, with 3 lesions found to be T0.

Fig. 1 Number of patients undergoing complete colonoscopy (CC)



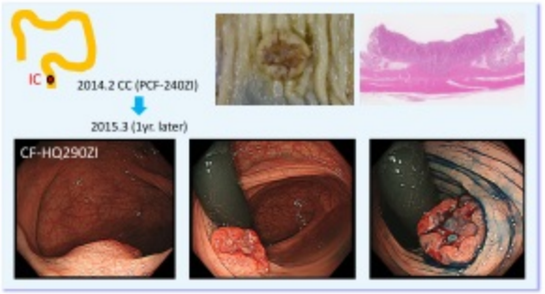
2003.7-2015.12 (TFCL)

Table 1 Interval cancers detected (8/2622;0.3%)

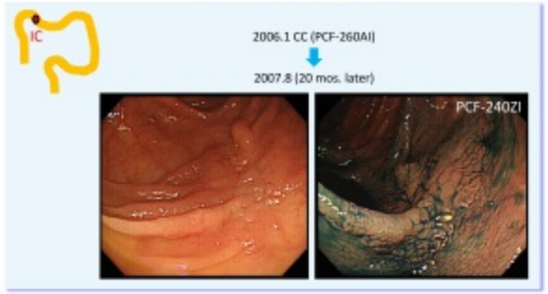
	Loc.	Size	Macroscopic appearance	Histology	TNM classification	Treatment	Interval period	Causes/missed or rapid-growing lesions
70y. M (case 1)	Ra	18 mm	Type2 (NPG)	Mod	pT2, N1, M0	OPE	13M	Location Rapid-growing
54y. F (case 2)	Rb	20 mm	Type2 (NPG)	Well > Por	pT2, N0, M0	OPE	20M	Location Rapid-growing
62y. F (case 3)	A	18 mm	IIa+IIc	Well > Muc	pT1, N0, M0	OPE	21M	Missed/Difficult to detect
72y. M	T	30 mm	LST-NG (PD)	Mod > Well	pT1, N0, M0	OPE	24M	
60y. M (case 4)	T	35 mm	LST-NG (PD)	Well	pT1	ESD	20M	Missed/Difficult to detect
72y. F (case 5)	C	25 mm	LST-NG (PD)	Well	pT1	EMR	13M	Missed/Difficult to detect
90y. M (case 6)	T	13 mm	LST-NG (PD)	Well > Mod	pT1	P-EMR	9M	Poor bowel prep. Missed/Difficult to detect
65y. M	D	20 mm	LST-NG (FE)	Well	pT1	EMR	29M	

These cancers were detected during CC examinations performed after a mean interval of 19 months (9-29 months). *2003.7-2015.12 (TFCL)*

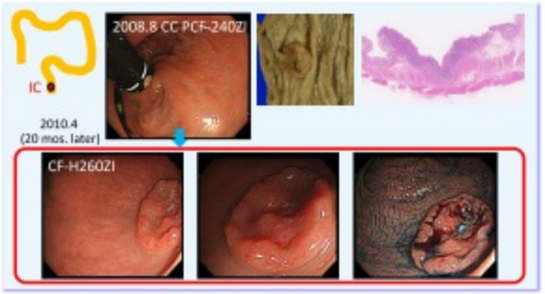
Case 1: 70 yrs, Male Ra, 18 mm, Type2, Mod, ly1, v1, pT2, N1 (3/19), M0, pStage IIIA



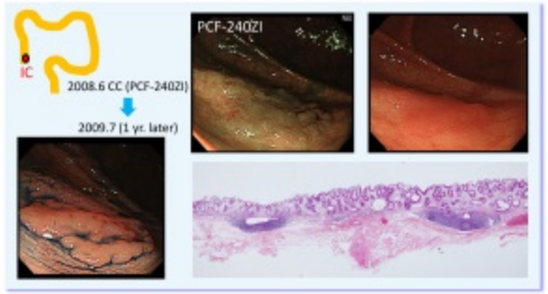
Case 4: 60 yrs, Male T/C, 35 mm, LST-NG (PD), ESD, Well, ly0, v0, pT1 (150 μm)



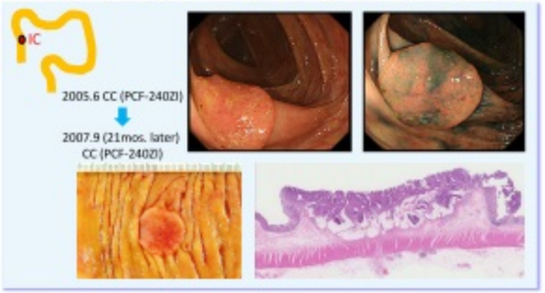
Case 2: 54 yrs, Female Rb, 20mm, Type2, Well > Por, ly0, v0, pT2, N0, M0, pStage I



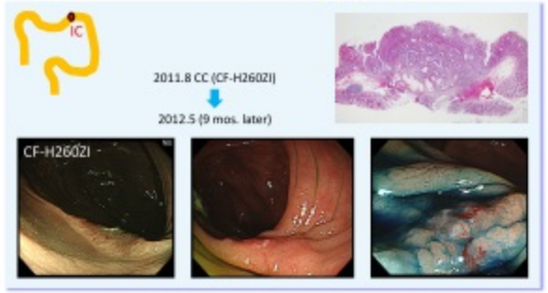
Case 5: 72 yrs, Female Cecum, 25 mm, LST-NG (PD), EMR, Well, ly0, v0, pT1 (< 1000 μm)



Case 3: 62 yrs, Female A/C, 18 mm, IIa+IIc, Wel > Muc, ly0, v0, pT1 (SM) 3000 μm, N0 (LN: 0/25), M0, pStage I



Case 6: 90 yrs, Male T/C, 13 mm, LST-NG (PD), P-EMR, Well > Mod, ly1, v0, pT1



Conclusions

Flat-depressed lesions may represent the likely culprit lesion for interval cancer, given their morphological features that make them difficult to detect by colonoscopy. As detection of these lesions is thought likely to be affected by such factors as blind spots in colonoscopy and bowel preparation and the lesions may be characterized as rapidly growing, colonoscopic examinations for CRC need to be performed with these lesions in mind.

There are no potential conflicts of interests related to this presentation.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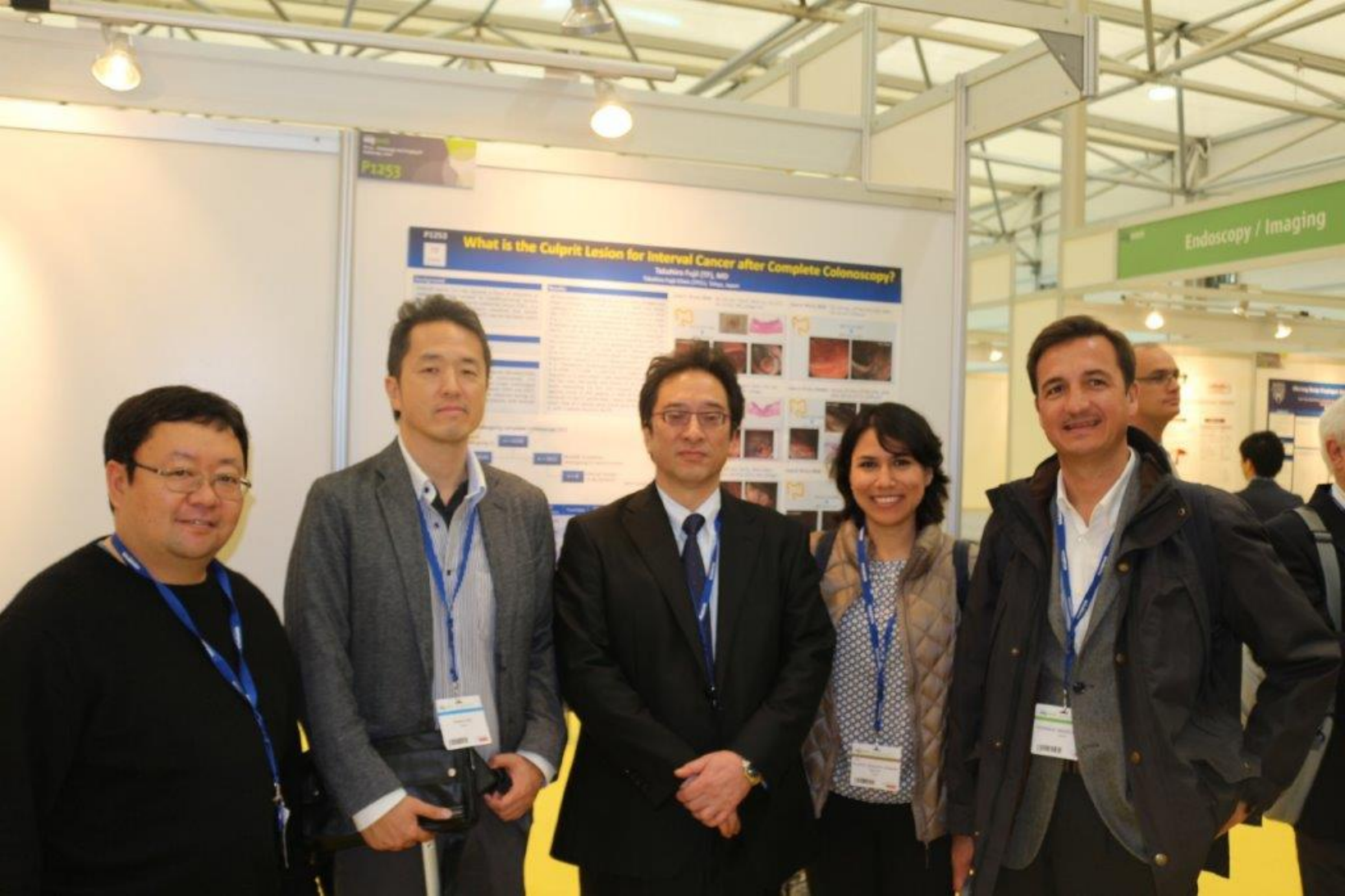
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