

Identifying clinical features associated with advanced gastric pathology in familial adenomatous polyposis

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Disclosures

- None
- Funding – American College of Gastroenterology Pilot Grant



Introduction

- Gastric cancer (GC) has recently been observed in Western FAP patients
- Our cohort
 - 10 cases of GC
 - SIR 140
- University of Utah
 - 4 cases in 4 years

Endoscopic Findings – Gastric Cancer



Polyp Pathology – Gastric Cancer

Pathology of Proximal Polyposis noted on EGD					
Pathology	No GC (N=40)		GC (N=10)		p-value
FGP	32 (80)		8(80.0)		0.99 ^c
FGP-LGD	20 (50)		10(100.0)		0.003 ^c
FGP-HGD	4 (10)		4(40.0)		0.01 ^c
PGA	0		0(0.0)		---
PGA-LGD	0 (0)		1(10.0)		0.02 ^d
PGA-HGD	0 (0)		2(20.0)		0.037 ^d
GA	2 (5)		3(30.0)		0.048 ^c

High Risk Lesions



Endoscopic Findings



What risk factors are associated with high risk pathology?



Aim

- Prospectively collect gastric polyps from patients undergoing surveillance EGD and compare characteristics of individuals with high & low risk polyp pathology



Methods

- Prospectively collected 150 polyps
- FAP and AFAP patients enrolled in an upper endoscopic surveillance program
- Jagelman Registry for Hereditary Colorectal Cancer Syndromes – Cleveland Clinic



Methods

- Demographics
- Clinical histories
- Endoscopic Characteristics
 - Polyp sizes & locations
 - White mucosal patches
 - Mounds
 - Duodenal polyps



Results

- 80 individuals
 - Low risk – 61
 - High risk - 19
- 150 polyps
 - High Risk (24)
 - 6 had 10 PGAs; 6 had 10 TAs; 4 had a HP
 - Low Risk (126)
 - 54 had 116 FGPs (low-grade or no dysplasia)
 - 9 had 10 other lesions

Results – Demographics & Clinical History

	Total (80)	High risk (19)	Low risk (61)	P value
Age	48 (± 1.5)	53.6 (± 3.1)	46.2 (± 1.7)	0.035
Family history of FAP	48 (60)	12 (63.2)	36 (59)	0.60
Family history of gastric cancer	7 (8.8)	4 (21)	3 (4.9)	0.051
Osteomas	11 (13.8)	1 (5.3)	10 (16.4)	0.45
Desmoid	9 (11.3)	2 (10.5)	7 (11.5)	0.99
CHRPE	9 (11.3)	1 (5.3)	8 (13.1)	0.68
Abnormal thyroid findings	16 (20)	5 (26.3)	11 (18)	0.51
Sebaceous Cysts	16 (20)	3 (15.8)	13 (21)	0.75
Supernumerary Teeth	5 (6.3)	1 (5.3)	4 (6.6)	0.99
Ampullary adenocarcinoma	2 (2.5)	0 (0)	2 (3.3)	0.99
Colon adenocarcinoma	11 (13.8)	4 (21.1)	7 (11.5)	0.28
Papillary thyroid carcinoma	1 (1.3)	0 (0)	1 (1.6)	0.99
Renal cell cancer	1 (0.8)	0 (0)	1 (1.6)	0.99
Upper GI Surgery	10 (12.5)	3 (15.8)	7 (11.5)	0.45
Colon Surgery (IPAA, IRA, EI)	70 (87.5)	17 (89.5)	53 (86.9)	0.99

Results – Medications and Substance use

	Total (80)	High risk (19)	Low risk (61)	P value
Any Tobacco Use	18 (22.5)	4 (21.1)	14 (23.3.)	0.99
Any Alcohol Use	24 (30)	5 (26.3)	19 (31.1)	0.78
PPI	48 (60)	15 (78.9)	33 (54.1)	0.64
H2	8 (10)	2 (10.5)	6 (9.8)	0.99
NSAID	20 (25)	8 (42.1)	12 (19.7)	0.07
Sulindac	19 (22.5)	4 (21.1)	7 (11.5)	0.99

Results – Endoscopic Findings

Gastric Fundus / Cardia	Total (80)	High risk (19)	Low risk (61)	P value
Polyps	77 (96.3)	18 (94.7)	59 (96.7)	0.56
# of polyps				0.51
0-50	16 (20)	6 (31.6)	19 (41.2)	
51-100	18 (22.5)	2 (10.5)	16 (26.2)	
>100	34 (42.5)	10 (52.6)	24 (39.3)	
Polyp sizes				0.92
0-9mm	58 (72.5)	15 (78.9)	43 (70.5)	
10-19mm	16 (20)	3 (15.8)	13 (21.3)	
≥20mm	1 (1.3)	0 (0)	1 (1.6)	
Carpeting	17 (21.3)	5 (26.3)	12 (19.7)	0.534
Mounds	3 (3.8)	1 (5.3)	2 (3.3)	0.56
White patch of mucosa	7 (8.8)	6 (31.6)	1 (1.6)	0.001

Results – Endoscopic Findings

Gastric Body	Total (80)	High risk (19)	Low risk (61)	P value
Polyps	75 (93.8)	18 (94.7)	57 (93.4)	0.99
# of polyps				0.86
0-50	26 (32.6)	7 (36.9)	19 (31.2)	
51-100	16 (20)	2 (10.5)	14 (23)	
>100	33 (41.3)	9 (47.4)	24 (39.3)	
Polyp sizes				0.72
0-9mm	55 (68.8)	15 (78.9)	40 (65.6)	
10-19mm	17 (21.3)	3 (15.8)	14 (23)	
≥20mm	1 (1.3)	0 (0)	1 (1.6)	
Carpeting	16 (20)	5 (26.3)	11 (18)	0.43
Mounds	4 (5)	2 (10.5)	2 (3.3)	0.24
White patch of mucosa	3 (3.8)	3 (15.8)	0 (0)	0.012

Results – Endoscopic Findings

Antrum	Total (80)	High risk (19)	Low risk (61)	P value
Polyps	6 (7.5)	4 (21.1)	2 (3.3)	0.026
# of polyps				0.026
0-50	6 (7.5)	4 (21.1)	2 (3.3)	
Polyp sizes				0.013
0-9mm	4 (5)	2 (10.5)	2 (3.3)	
10-19mm	6 (7.5)	4 (21.1)	2 (3.3)	
Carpeting	---			
Mounds	---			
White patch of mucosa	---			

Results – Endoscopic Findings

Duodenum	Total (80)	High risk (19)	Low risk (61)	P value
Number of duodenal polyps				0.74
0	21 (26.3)	4 (21.1)	17 (27.9)	
1-4	14 (17.5)	4 (21.1)	10 (16.4)	
5-20	24 (30)	8 (42.1)	16 (26.2)	
>20	18 (22.5)	3 (15.8)	15 (24.6)	
Sizes of polyps in duodenum				0.82
0	21 (26.3)	4 (21.1)	17 (27.9)	
1-4mm	25 (31.3)	8 (42.1)	17 (27.9)	
5-10mm	20 (25)	5 (26.3)	15 (24.6)	
>10mm	12 (15)	2 (10.5)	10 (16.4)	
Spigelman Stage				NS
I	28 (35)	9 (47.3)	19 (31.1)	
II	31(38.7)	7 (37)	24 (39)	
III	15 (17.5)	3 (15.8)	12 (20)	
IV	4 (5)	1 (5.2)	4 (4.9)	

Summary

- Features associated with high risk polyp pathology include:
 - Older age (53.6 vs 46.2)
 - Presence of white mucosal patches
 - Antral polyps
 - Family history of GC (p - 0.051)



Limitations

- Single center
- Small number
- Endoscopic identification



Conclusion

- Closer endoscopic surveillance of FAP stomachs should be performed in individuals with risk factors for high risk polyp pathology



References

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Thank You

