A SYSTEMATIC REVIEW OF PRIMARY ILEOSTOMY SITE MALIGNANCIES

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INTRODUCTION

- Ileostomy site neoplasm is a rare complication that can often present decades after stoma creation.
- To date, there have been no prospective or retrospective controlled studies due to the rarity and late presentation of ileostomy site neoplasia. Additionally, case series and studies have not encompassed the variety of pathologies and symptoms of this phenomenon

METHODS

A review of the literature was conducted following PRISMA guidelines by querying PubMed, Global Health, and Web of Science for articles published before November 2020. Search criteria contained broad terminology for ileostomy site neoplasms without language, date, or publication limitations. A full-text review of the abstracts confirmed primary malignant pathologies and was evaluated for study inclusion

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CONCLUSIONS:

- The literature review demonstrated eight different malignancies originating at an ileostomy site. Adenocarcinoma and squamous cell carcinomas were the most common findings.
- Familial adenomatous polyposis (FAP) and inflammatory bowel disease (IBD) are the most common etiologies for ileostomy creation
- Patients with a history of FAP almost exclusively developed adenocarcinoma on average 25.8 years after the index surgery. Patients with IBD developed more diverse pathologies much later after stoma creation.
- The most common symptoms of ileostomy site malignancies were growing mass, bleeding, irritation, and difficulty with the stomal appliance. However, neither tumor pathology nor past medical history influenced presentation significantly.

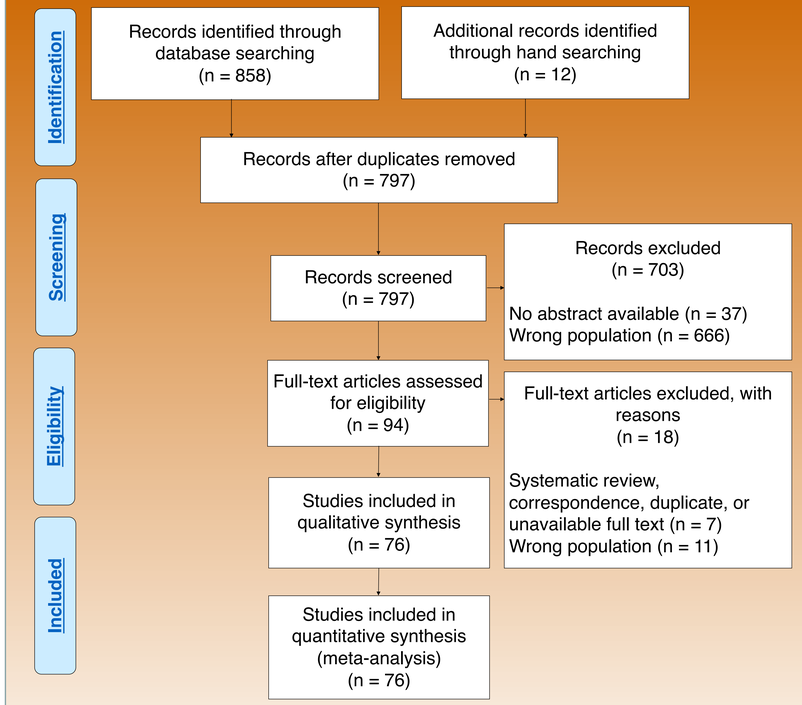

Figure 1. Flowchart of the literature search and article selection.

Variables	FAP (n = 19)	IBD (n = 67)	Other (n = 5)	P-Value
Age at ileostomy creation, years [a]	29.0 [24.8, 37.0]	31.5 [25.0, 38.8]	43.0 [35.0, 53.0]	0.20
Age at ileostomy neoplasm diagnosis, years	56.0 (12.3)	64.1 (11.1)	57.0 (18.5)	0.02*
Age of stoma, years	25.8 (7.7)	31.4 (12.4)	14.5 (13.9)	<0.05*
Sex				0.45
Female	9 (47.4)	33 (49.3)	1 (20.0)	
Male	10 (52.6)	34 (50.7)	4 (80.0)	
Race				<0.05*
Black	1 (16.7)	0 (0.0)	0 (0.0)	
Indian	0 (0.0)	0 (0.0)	1 (100.0)	
White	5 (83.3)	9 (100.0)	0 (0.0)	
Largest dimension of neoplasm, cm [a]	4.5 [3.0, 9.0]	4.0 [3.0, 5.0]	3.4 [2.7, 8.2]	0.63
Resection type [b]				0.35
nononcologic resection	7 (41.2)	36 (57.1)	3 (60.0)	
Resection resulting in reoperation	0 (0.0)	2 (3.2)	0 (0.0)	
Local	1 (5.9)	2 (3.2)	0 (0.0)	
No surgery	0 (0.0)	1 (1.6)	1 (20.0)	
Oncologic	9 (52.9)	22 (34.9)	1 (20.0)	
Pathology Result				0.05*
Adenocarcinoma	18 (94.7)	50 (74.6)	2 (40.0)	
Squamous Cell Carcinoma	0 (0.0)	8 (11.9)	2 (40.0)	
Other	1 (5.3)	9 (13.4)	1 (20.0)	
Eccrine syringofibroadenoma	1 (5.3)	1 (1.5)	0 (0.0)	
Extramammary Paget Disease	0 (0.0)	1 (1.5)	0 (0.0)	
Lymphoma	0 (0.0)	3 (4.5)	0 (0.0)	
Melanoma	0 (0.0)	3 (4.5)	0 (0.0)	
Neuroendocrine Tumor	0 (0.0)	1 (1.5)	0 (0.0)	
Verrucous Carcinoma	0 (0.0)	0 (0.0)	1 (20.0)	
Lymph node positive [b]	0 (0.0)	9 (25.7)	0 (0.0)	0.14
Metastatic disease [b]	0 (0.0)	7 (15.2)	1 (25.0)	0.22

Table 1. Variables presented as following: normal distribution = mean (standard deviation); non-normal distribution = median [interquartile range]; categorical = n (%). Univariate analysis performed with t-test or chi-squared test as appropriate unless otherwise specified. a Kruskal-Wallis Rank Sum Test. b Fisher's exact test. * Statistical significance p-value ≤ 0.05. Abbreviations: FAP = Familial adenomatous polyposis, IBD = Inflammatory bowel disease.

RESULTS

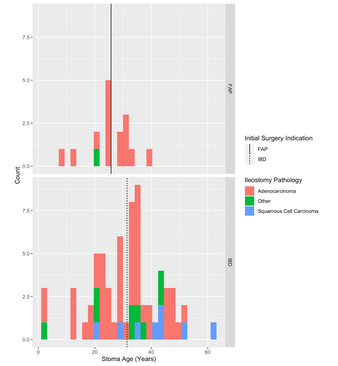

Figure 2. Histogram of ileostomy site malignancy diagnosis by stoma age. Mean stoma age in patients with familial adenomatous polyposis (FAP) before ileostomy site cancer diagnosis = 25.8 years. Mean stoma age in patients with Inflammatory bowel disease (IBD) before ileostomy site cancer diagnosis = 31.4 years.

DISCUSSION

Ileostomy site malignancies are late-appearing complications that require curative surgery. Their presentation is associated with ileostomy duration and creation indication, such as FAP or IBD. We recommend screening at a stoma age ≥ 20 or patient age ≥ 50 for patients with FAP, while stoma age ≥ 25 or patient age ≥ 60 for IBD patients.

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