A Rare Case Of Adenocarcinoma Within The Columnar Cuff After Restorative Proctocolectomy for Familial Adenomatous Polyposis

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Introduction

- Restorative proctocolectomy (RPC) with ileal pouch anal anastomosis (IPAA) is a standard treatment option for patients with familial adenomatous polyposis (FAP).
- When using the double stapling technique there is rectal mucosa left behind.[1]
- According to Thompson-Fawcett *et al*, this rectal mucosa is termed the columnar cuff and is located just proximal to the anal transition zone (ATZ).[2]
- This colorectal tissue has the potential for neoplastic transformation.
- We report the fourth patient with FAP to develop invasive columnar cuff carcinoma after restorative proctocolectomy and their management.

Methods & Results

- A 47-year-old female with a past medical history of FAP s/p restorative was referred to the colorectal office for a rectal mass found on imaging during a workup for a periampullary adenoma.
- Pelvic MRI showed a mass arising from the rectal cuff with extension into the submucosa (Figure 1).
- Flexible sigmoidoscopy showed a near circumferential mass arising from the rectal cuff and biopsy was positive for adenocarcinoma (Figure 2).
- The patient was discussed at multidisciplinary tumor board and received neoadjuvant FOLFOX for 6 weeks.
- She underwent pouch excision and ileostomy.
- Pathology showed a well differentiated rectal adenocarcinoma (T1N0M0) (Figure 3).

Figures

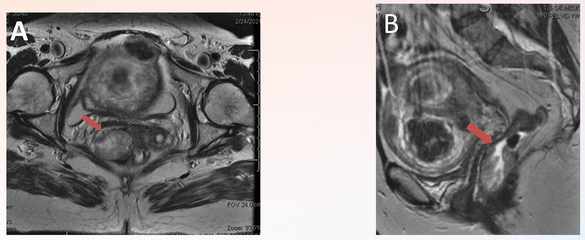


Figure 1 – Axial (A) and sagittal (B) view of columnar cuff mass (orange arrows)

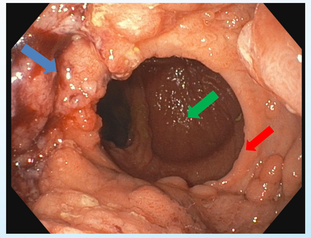


Figure 2 – Endoscopic view of polypoid lesion within the rectal cuff (blue arrow). Anastomosis (red arrow). J-pouch (green arrow)

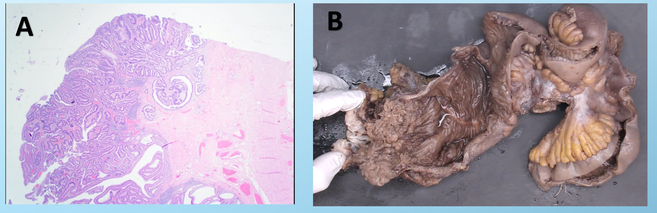


Figure 3 – (A) H&E stain low power view of adenomatous polyp with focus of adenocarcinoma invading into the submucosa. (B) Gross pathology of polypoid lesion of rectal cuff.

Discussion & Conclusions

- Virtually all patients with FAP will develop colorectal cancer in their lifetime if not treated surgically.[3]
- Total colectomy with ileorectal anastomosis (IRA) and IPAA are the two most common surgeries.
- IPAA has a decreased risk of subsequent adenocarcinoma in the tissue left behind compared to IRA, which is ~30%.
- Cancer after IPAA is rare with only 23, 69, and 3 documented cases of cancer within the ileal pouch, ATZ and columnar cuff, respectively.
- Currently, a double stapled IPAA is the standard procedure.
- Preservation of the ATZ allows for functional advantage; however, this also leaves a risk of malignant transformation of the ATZ and rectal cuff.
- Therefore, yearly endoscopic surveillance with columnar cuff and pouch biopsies is recommended.
- If cancer is diagnosed a multidisciplinary approach should be taken and surgical excision of the pouch is typically required.

References

- 1. Thompson-Fawcett MW, Warren BF, Mortensen NJ. A new look at the anal transitional zone with reference to restorative proctocolectomy and the columnar cuff. *Br J Surg*. 1998;85(11):1517-1521.
- 2. Remzi FH, Church JM, Bast J, et al. Mucosectomy vs. stapled ileal pouch-anal anastomosis in patients with familial adenomatous polyposis: functional outcome and neoplasia control. *Dis Colon Rectum*. 2001;44(11):1590-1596.
- 3. Campos FG, Habr-Gama A, Kiss DR, et al. Adenocarcinoma after ileoanal anastomosis for familial adenomatous polyposis: review of risk factors and current surveillance apropos of a case. *J Gastrointest Surg*. 2005;9(5):695-702.

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