

A Pillar PathA Case: Adenocarcinoma in a Right Colon

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Introduction

The patient in this case was a male in his mid-70s who underwent a right hemicolectomy. The lab received a portion of terminal ileum, cecum, appendix, and ascending colon with attached adipose tissue. The specimen presented a classic case of colonic adenocarcinoma, which is “the most common malignancy of the GI tract” and accounts “for nearly 10% of all cancer deaths worldwide.”¹ A right hemicolectomy specimen for colonic adenocarcinoma is a very commonly received specimen for Pathologists' Assistants (PathAs), and therefore offers a perfect demonstration of the crucial role PathAs play in assisting in carcinoma staging and diagnosis.

Clinical History

- Previous Colorectal Cancer
 - Over 10 years prior
 - Rectum and ascending colon
- Gastroesophageal Reflux Disease (GERD)
- Hyperlipidemia
- Myocardial Infarction
- Coronary Artery Disease
- And more....



Figure 1: Opened Specimen, Revealing the Mass

Gross Findings

External Findings:

- Fibrous adhesions on serosal surfaces
- Discontinuity of terminal ileum portion (likely surgical)

Mass Findings:

- Within ascending colon
- Reddened & slightly firm
- Heaped up borders
- Ulcerated center
- 2.4 x 2.1 x 0.5 cm
- 7cm from distal margin & ileocecal valve
- Grossly invades muscularis propria
- No perforation

Additional Findings:

- Erythematous and haphazardly folded mucosa near mass
- 3 sessile polyps between mass and distal margin
- Grossly unremarkable appendix
- 16 lymph node candidates

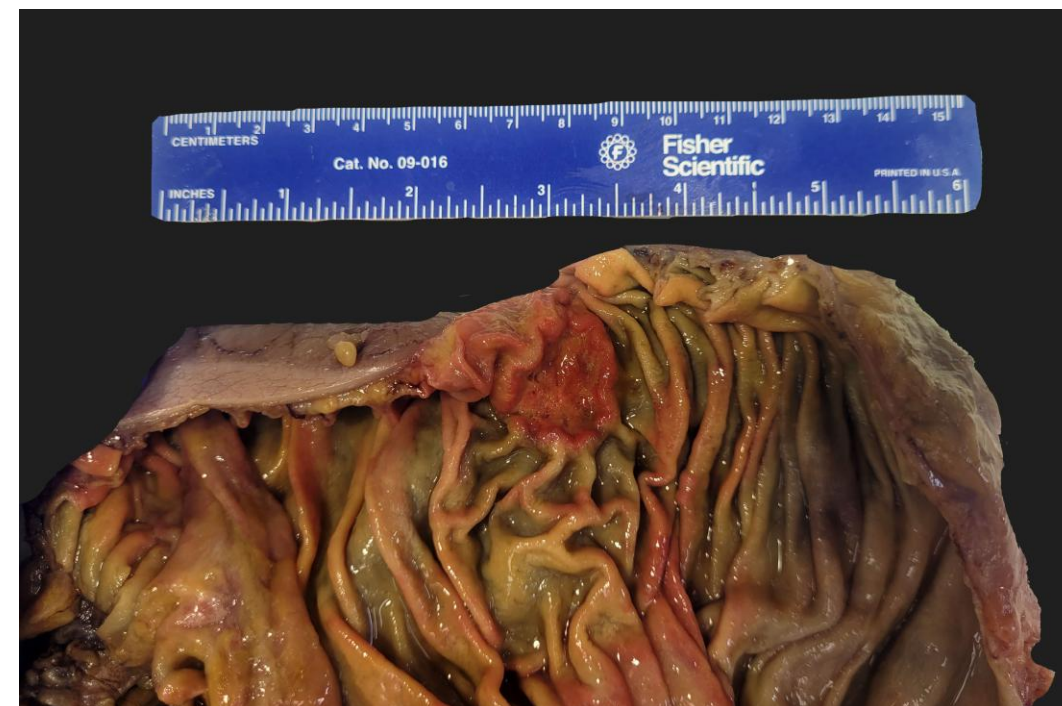


Figure 2: Closer View of Mass

Microscopic Findings

- **Histologic Type:** Adenocarcinoma
- **Histologic Grade:** G2, moderately differentiated
- **Extent:** Invades into- but not through- muscularis propria

Microscopic Findings Cont.

- **Margins:** All negative for carcinoma
- **Other:** All lymph nodes negative for carcinoma, no perineural invasion, no tumor deposits

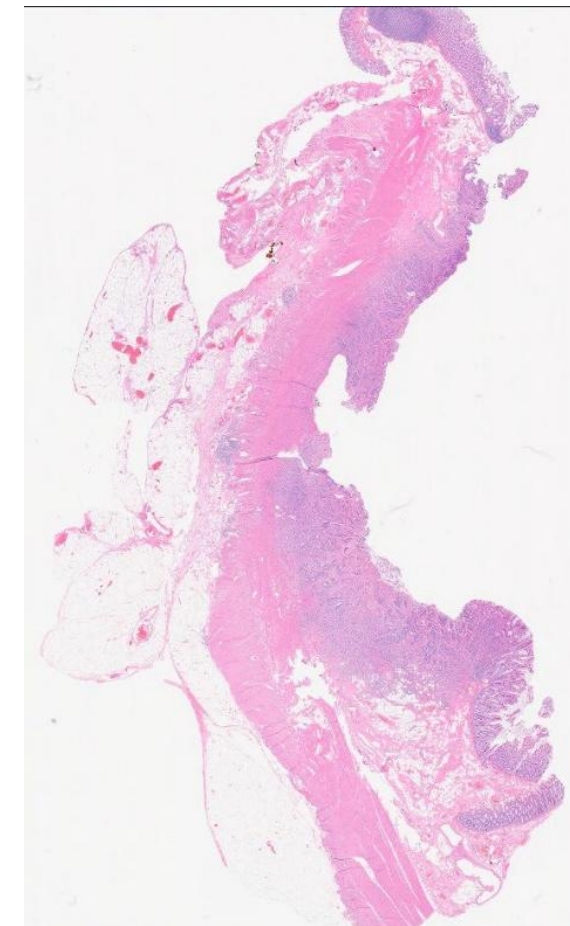


Figure 3: Mass with Greatest Depth of Invasion at 0.26x

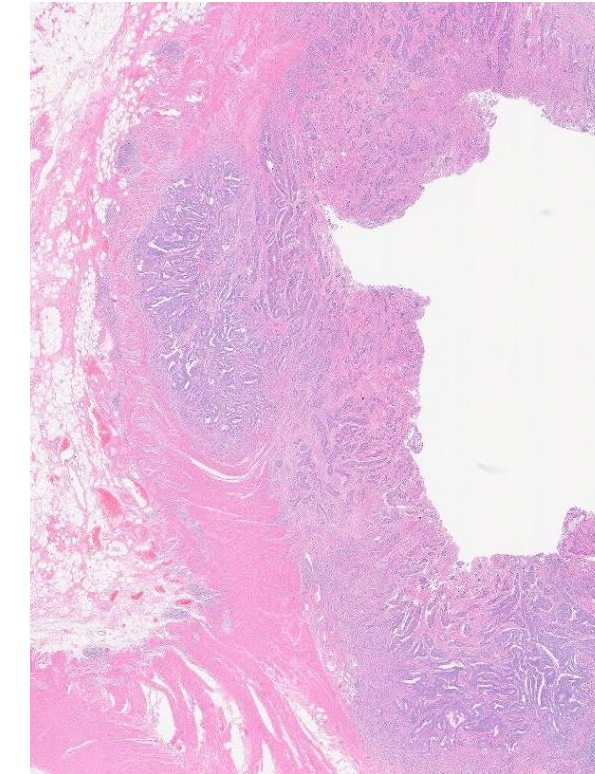


Figure 4: Ulcer Cavity of Mass at 0.59x

Discussion

This case acts a quintessential example of the important role a Pathologists' Assistant plays in the staging and diagnosis of colorectal adenocarcinoma cases. The identification of the tumor as well as its size, location, and gross features all aid the pathologist in staging the carcinoma and making a final diagnosis. The PathA actually grossly visualizes the tumor and identifies the greatest depth of invasion, which is essential for the correct staging. Furthermore, with the submission of the appropriate section(s), the PathA further assists in synoptic reporting and staging & grading of the tumor by providing essential information to supplement what is seen histologically as well as provide details not always microscopically evident- such as the greatest dimension of the tumor. The PathA is also responsible for the gross identification and reporting of important additional or incidental findings, such as polyps or diverticula.

Staging²

TX: Primary tumor cannot be assessed
TO: No evidence of primary tumor
Tis: Carcinoma in situ (lamina propria involvement only)
T1: Tumor invades submucosa
T2: Tumor invades muscularis propria
T3: Tumor invades into pericorectal tissues
T4a: Tumor invades through visceral peritoneum
T4b: Tumor directly invades or adheres to adjacent organs or structures

From AJCC Cancer Staging Manual²

Final Diagnosis & Conclusion

Based on the gross and microscopic findings, the pathologist determined the stage to be pT2, N0, as the greatest depth of invasion was into but not through the muscularis propria.² The grade was assigned as G2 (moderately differentiated). No metastasis was identified. Each of these factors- most importantly stage and (lack of) nodal and distant metastasis- combined to establish a good prognosis for the patient.³

Acknowledgments

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References

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