

# AN ATYPICAL PRESENTATION OF RECTAL ADENOCARCINOMA

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## BACKGROUND

Adenocarcinoma is the most common type of rectal cancer, arising from the glandular epithelial cells of the rectum. In contrast, anal squamous cell carcinoma (SCC) is primarily linked to high-risk human papillomavirus (HPV) infection, with approximately 80–90% of cases in the UK attributed to HPV. The simultaneous occurrence of both adenocarcinoma of the rectum and HPV-associated anal SCC is highly rare and sporadic.

## CASE PRESENTATION

An 85-year-old female was diagnosed with a low rectal tumour through a routine colorectal cancer screening programme and underwent Transanal Minimally Invasive Surgery (TAMIS) for local excision. She received adjuvant chemotherapy following the procedure. Post-chemotherapy, PET-CT and MRI scans were performed, raising suspicion of nodal recurrence. Consequently, she underwent an Abdominoperineal Excision of the Rectum (APER), and the specimen was submitted for histopathological examination.

## HISTOLOGY

### Macroscopic Description

A small, scarred firm residual area was identified in the lower rectum. The region was generously sampled to assess for any residual tumour and to include lymph nodes for evaluation.

### Microscopic Description

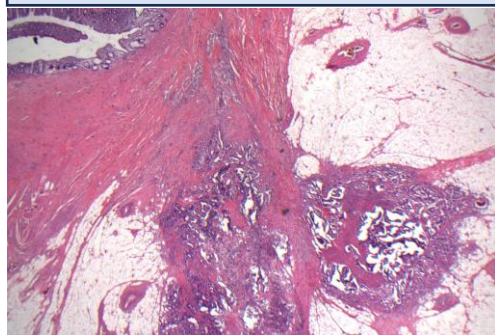
Sections revealed residual moderately differentiated invasive adenocarcinoma infiltrating the muscularis propria and extending into the pericolic fat (yT3), with no nodal recurrence identified.

Sampling from the dentate line and anal canal demonstrated squamous cell carcinoma (SCC) arising in a background of anal intraepithelial neoplasia grade 3 (AIN3), confirmed by immunohistochemistry (IHC).

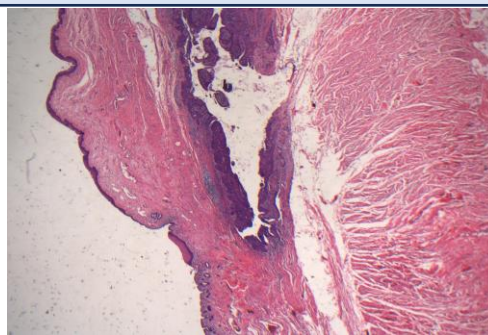
An incidental benign leiomyoma was also noted within the smooth muscle of the lower rectal wall.

IHC for p16 and p40 showed positive staining, confirming HPV-associated pathology.

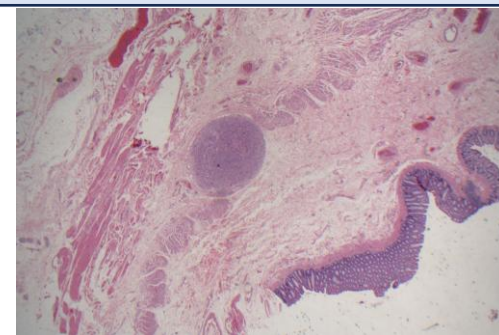
## HISTOLOGY IMAGES



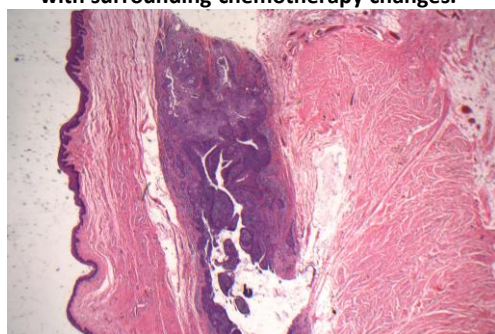
H & E 2.5x- showing residual adenocarcinoma with surrounding chemotherapy changes.



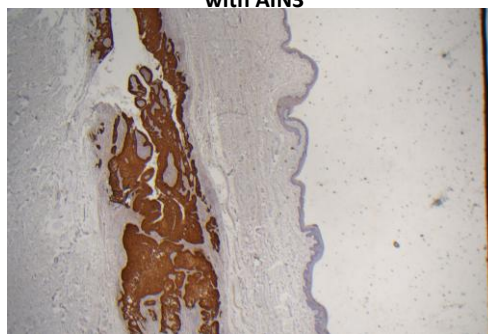
H & E 2.5x- demonstrates dentate line with AIN3



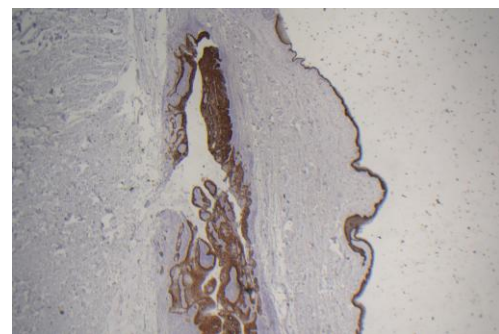
H & E 2.5x- Incidentally detected leiomyoma



H & E 2.5x- showing SCC from background AIN3



IHC for P16 positive (HPV Associated)



IHC for P40

## DISCUSSION

- Thorough sampling is crucial in post-chemotherapy specimens to ensure detection of any residual tumour.
- Close correlation with clinical and radiological findings enhances diagnostic accuracy.
- Meticulous histological examination is essential, particularly to detect residual minimal disease/tumour
- This case report also highlights the role of examining the dentate line to avoid missing out on a synchronous tumour. With meticulous sampling and attention to detail, we could identify a synchronous primary in the rectum operated for residual adenocarcinoma
- The coexistence of an incidental benign smooth muscle tumour with residual rectal adenocarcinoma and HPV associated squamous cell carcinoma is a very rare and uncommon presentation.

## CONCLUSION

- Comprehensive clinical correlation and generous tissue sampling in post-chemotherapy cases are vital for accurate diagnosis.
- Despite advances in imaging, histopathology remains the cornerstone for detecting minimal residual and incidental neoplastic lesions.

## REFERENCES

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