Colorectal cancer

The pathologist's role

- Careful and accurate pathological reporting of colorectal resection specimen is vital!

Pathology reports are used to

- Confirm the diagnosis
- Inform prognosis
- Plan the treatment of individual patients
- Audit pathology services
- Evaluate quality of other clinical services-radiology, surgery, oncology
- Collect accurate data for cancer registration and epidemiology
- Facilitate high quality research
- Plan service delivery

APPENDIX C PROFORMA FOR COLORECTAL CANCER RESECTIONS

Surname: ..... Forenames: ..... Date of birth: .....

Hospital..... ..... Hospital no: ..... NHS no: .....

Date of receipt: ..... Date of reporting: ..... Report no: .....

Pathologist: ..... Surgeon: ..... Sex: .....

Specimen type: Total colectomy / Right hemicolectomy / Left hemicolectomy / Sigmoid colectomy / Anterior resection / Abdominoperineal excision / Other (state) .....

Gross description

Site of tumour .....

Maximum tumour diameter: .....mm

Distance of tumour to nearer cut end .....mm

Tumour perforation (pT4) Yes ☐ No ☐

If yes, perforation is serosal ☐ retro/infra peritoneal ☐

For rectal tumours:

Relation of tumour to peritoneal reflection (tick one):

Above ☐ Astride ☐ Below ☐

Plane of surgical excision (tick one):

Mesorectal fascia ☐

Intramesorectal ☐

Muscularis propria ☐

For abdominoperineal resection specimens:

Distance of tumour from dentate line .....mm

Tumour involvement of margins

	N/A	Yes	No
Doughnuts	☐	☐	☐
Margin (cut end)	☐	☐	☐
Non-peritonealised 'circumferential' margin	☐	☐	☐

Histological measurement from tumour to non-peritonealised margin ..... mm

Metastatic spread

No of lymph nodes present .....

No of involved lymph nodes .....

(pN1 1–3 nodes, pN2 4+ nodes involved)

Highest node involved (Dukes C2) Yes ☐ No ☐

Extramural venous invasion Yes ☐ No ☐

Histologically confirmed distant metastases (pM1):

Yes ☐ No ☐ If yes, site: .....

Histology

Histology

Type

Adenocarcinoma Yes ☐ No ☐

If No, other type .....

Differentiation by predominant area

Well / moderate ☐ Poor ☐

Local invasion

No carcinoma identified (pT0) ☐
Submucosa (pT1) ☐
Muscularis propria (pT2) ☐
Beyond muscularis propria (pT3) ☐
Tumour invades adjacent organs (pT4a) ☐
AND/OR
Tumour cells have breached the serosa (pT4b) ☐

Maximum distance of spread beyond muscularis propria .....mm

Response to neoadjuvant therapy

Neoadjuvant therapy given Yes ☐ No ☐ NK ☐

If yes:

No residual tumour cells / mucus lakes only ☐
Minimal residual tumour ☐
No marked regression ☐

Yes ☐ No ☐ If yes, site: .....

Background abnormalities: Yes ☐ No ☐

If yes, type: (delete as appropriate)

Adenoma(s) (state number .....)

Familial adenomatous polyposis / Ulcerative colitis / Crohn's disease / Diverticulosis / Synchronous carcinoma(s)

(complete a separate form for each cancer)

Other ....

Pathological staging

Complete resection at all surgical margins

Yes (R0) ☐ No (R1 or R2) ☐

TNM (5th edition)

(y) pT ..... (y) pN .....(y) pM .....

Dukes

Dukes A ☐ (Tumour limited to wall, nodes negative)
Dukes B ☐ (Tumour beyond M. propria, nodes negative)
Dukes C1 ☐ (Nodes positive and apical node negative)
Dukes C2 ☐ (Apical node involved)

Signature: ..... **Date** ...../...../..... **SNOMED Codes T..... / M.....**

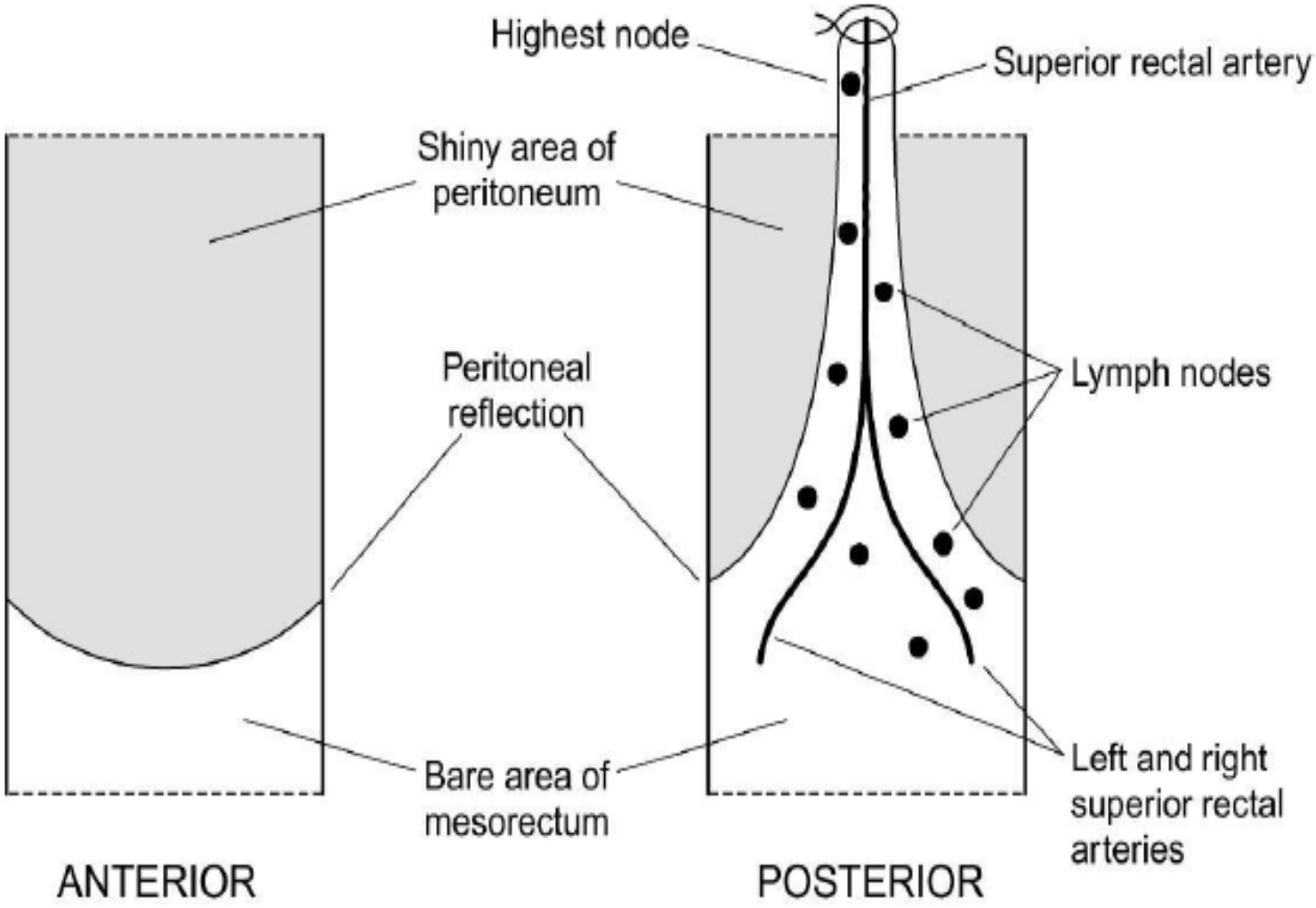
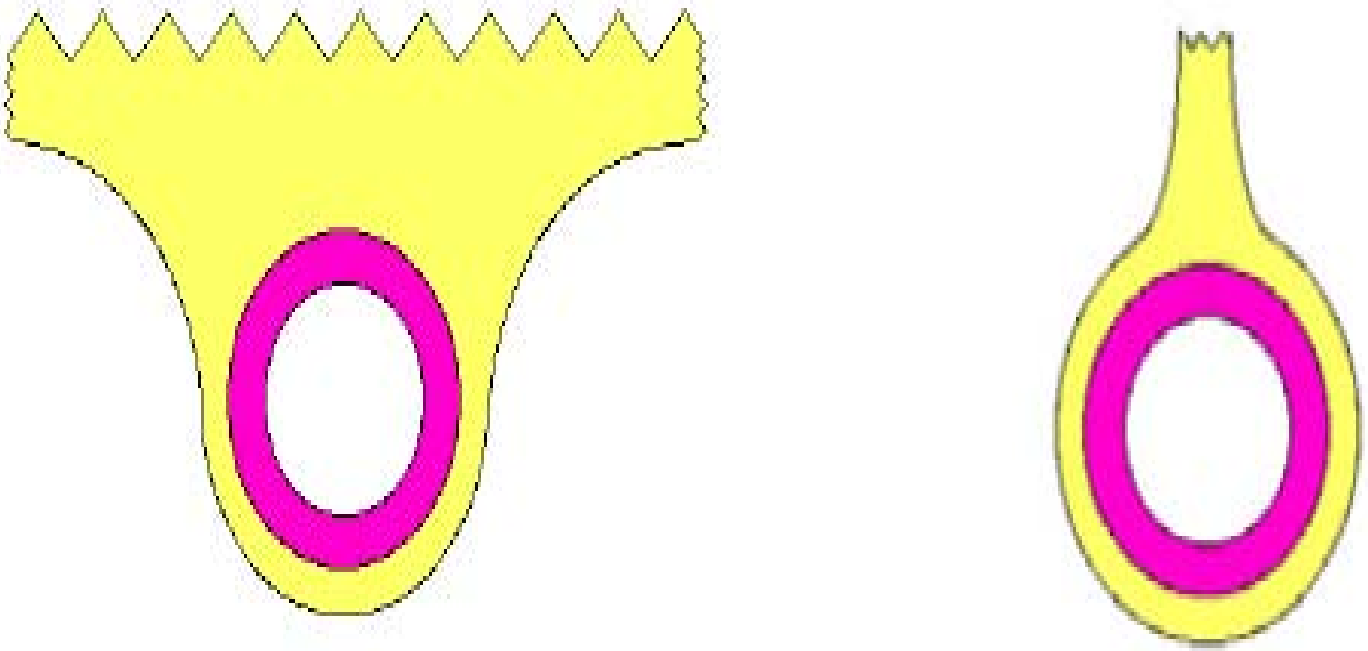


Figure 1 Diagrammatical representation of a resected rectum. Anteriorly the specimen is covered by peritoneum down to the peritoneal reflection and only the unshaded area below this is the non-peritonealised (circumferential) margin that is at risk of tumour involvement. Posteriorly the non-peritonealised margin extends upwards as a triangular-shaped bare area containing the main vessels that continues as the sigmoid mesocolon.



Diagrammatic cross-sections of the ascending colon (left) and sigmoid colon (right). The ascending colon has a broad non-peritonealised (jagged) margin posteriorly while the sigmoid colon is suspended on a narrow mesentery and has a very small non-peritonealised margin.

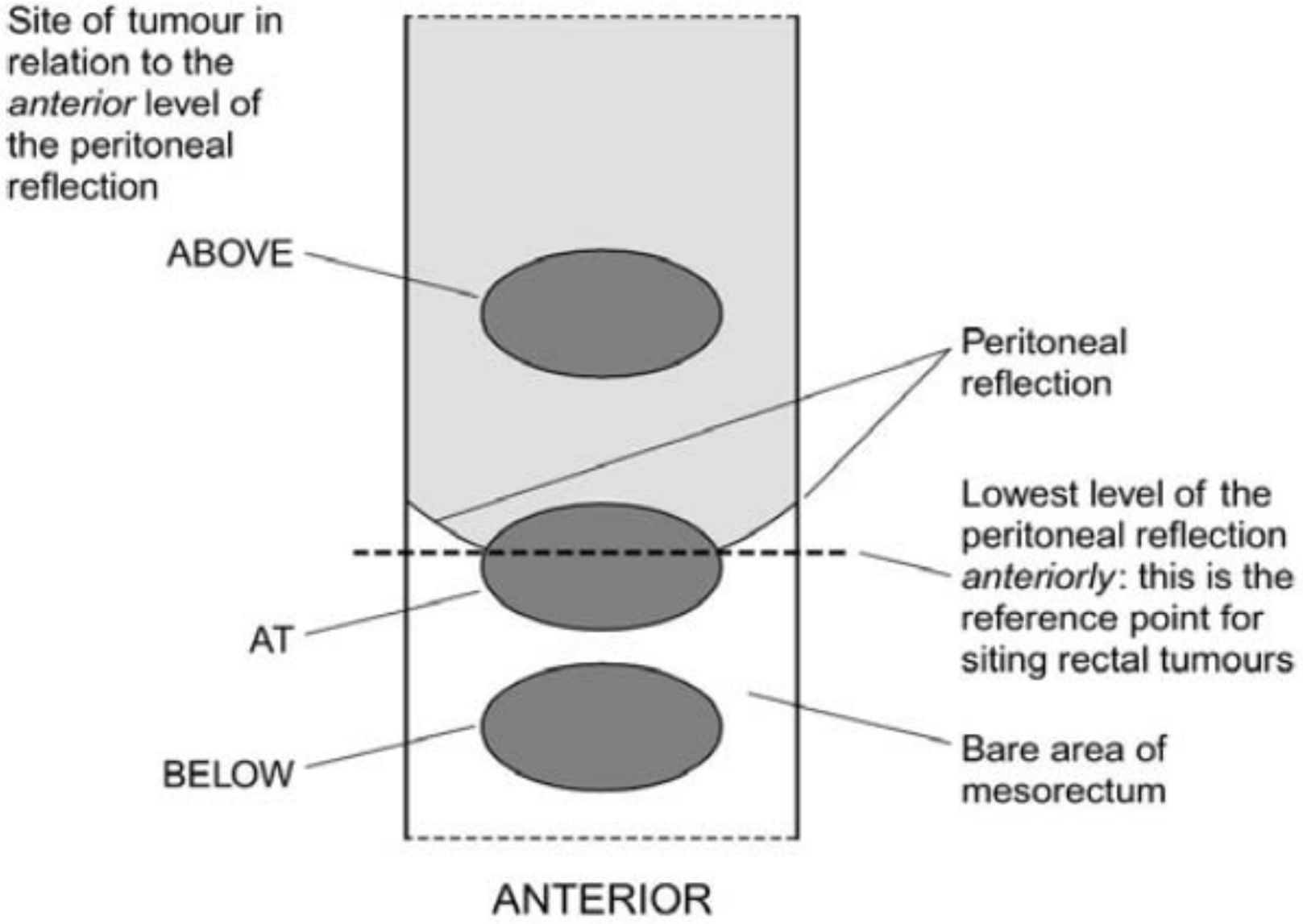
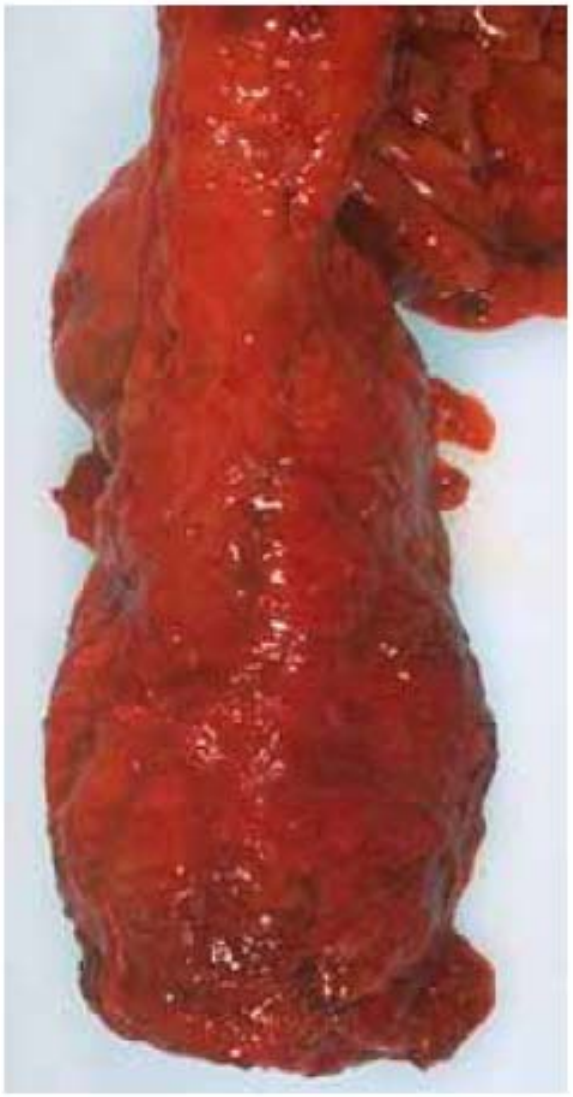
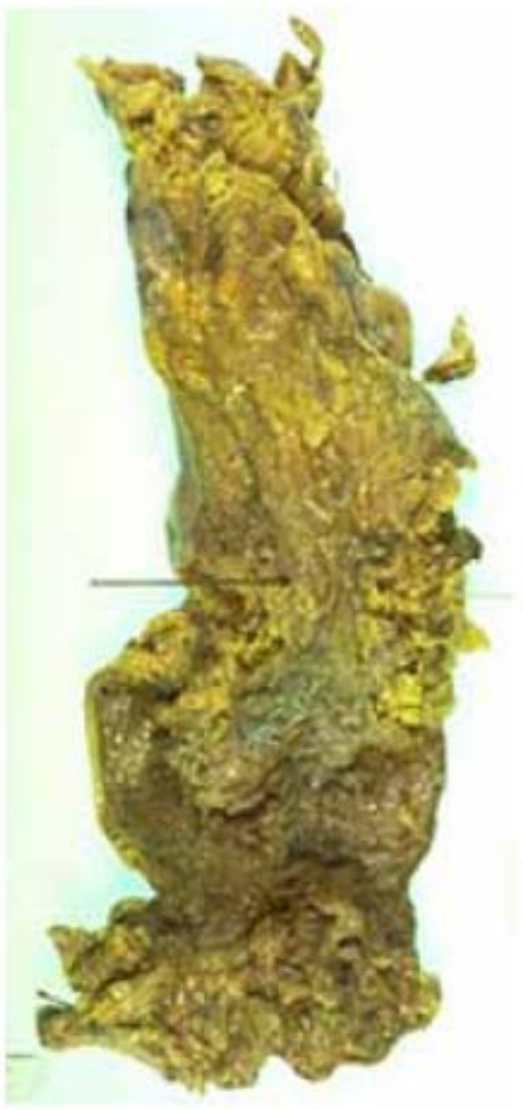


Figure 3 Diagrammatic illustration of rectal tumours in relation to the peritoneal reflection



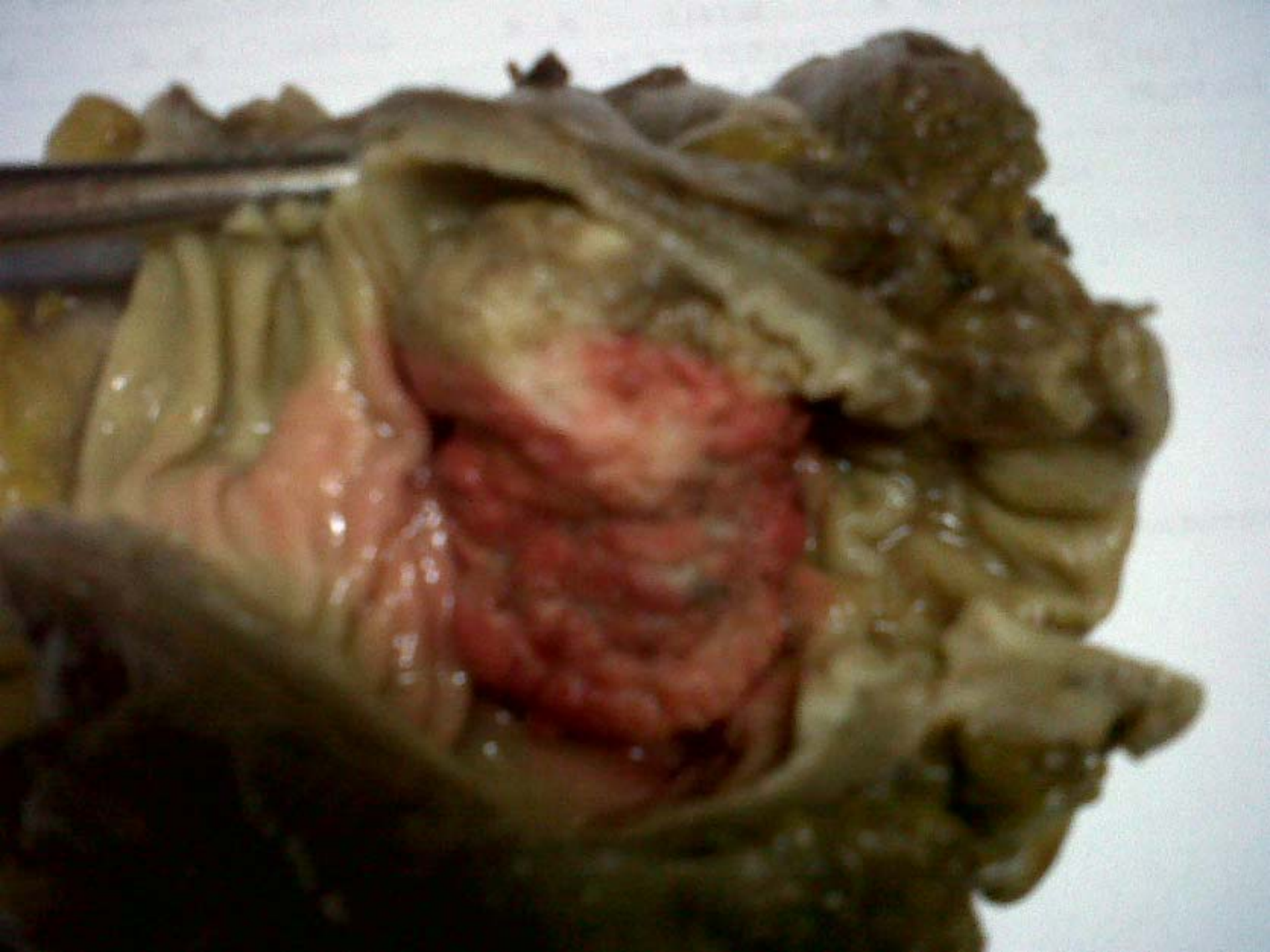
Mesorectal fascia

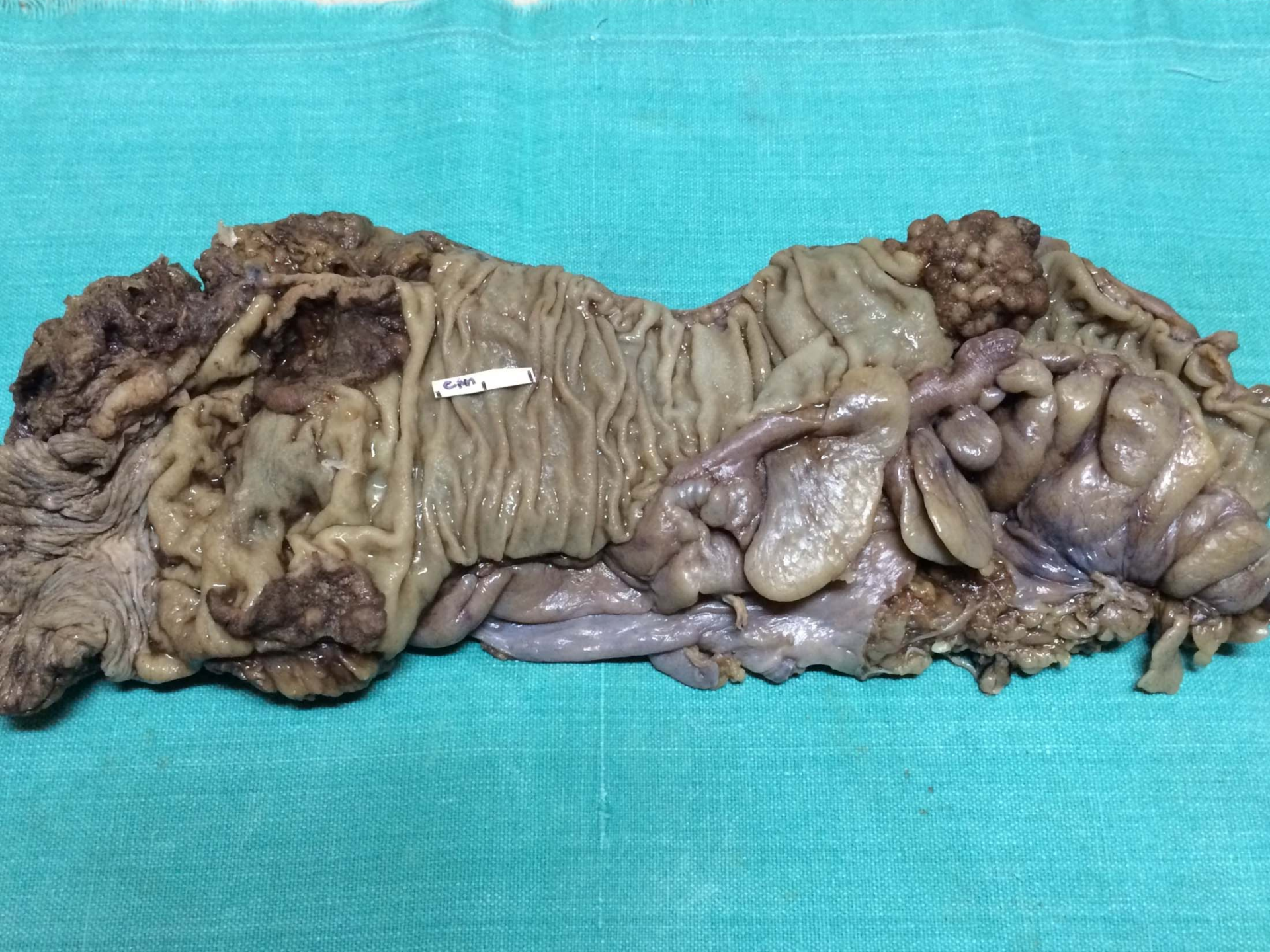
Intramesorectal



Muscularis propria

Figure 4 Examples of rectal cancer excision specimens showing different surgical excision planes





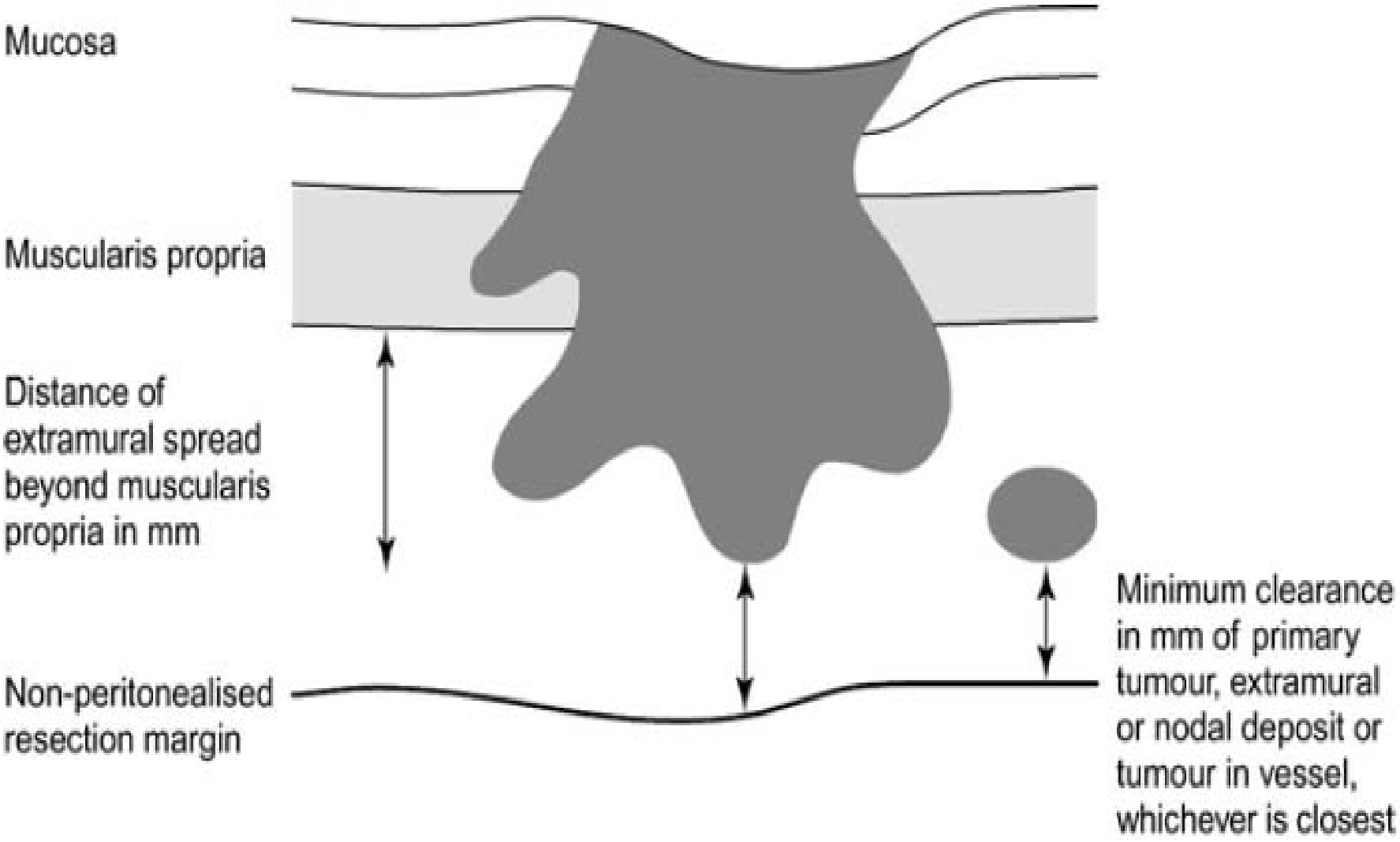
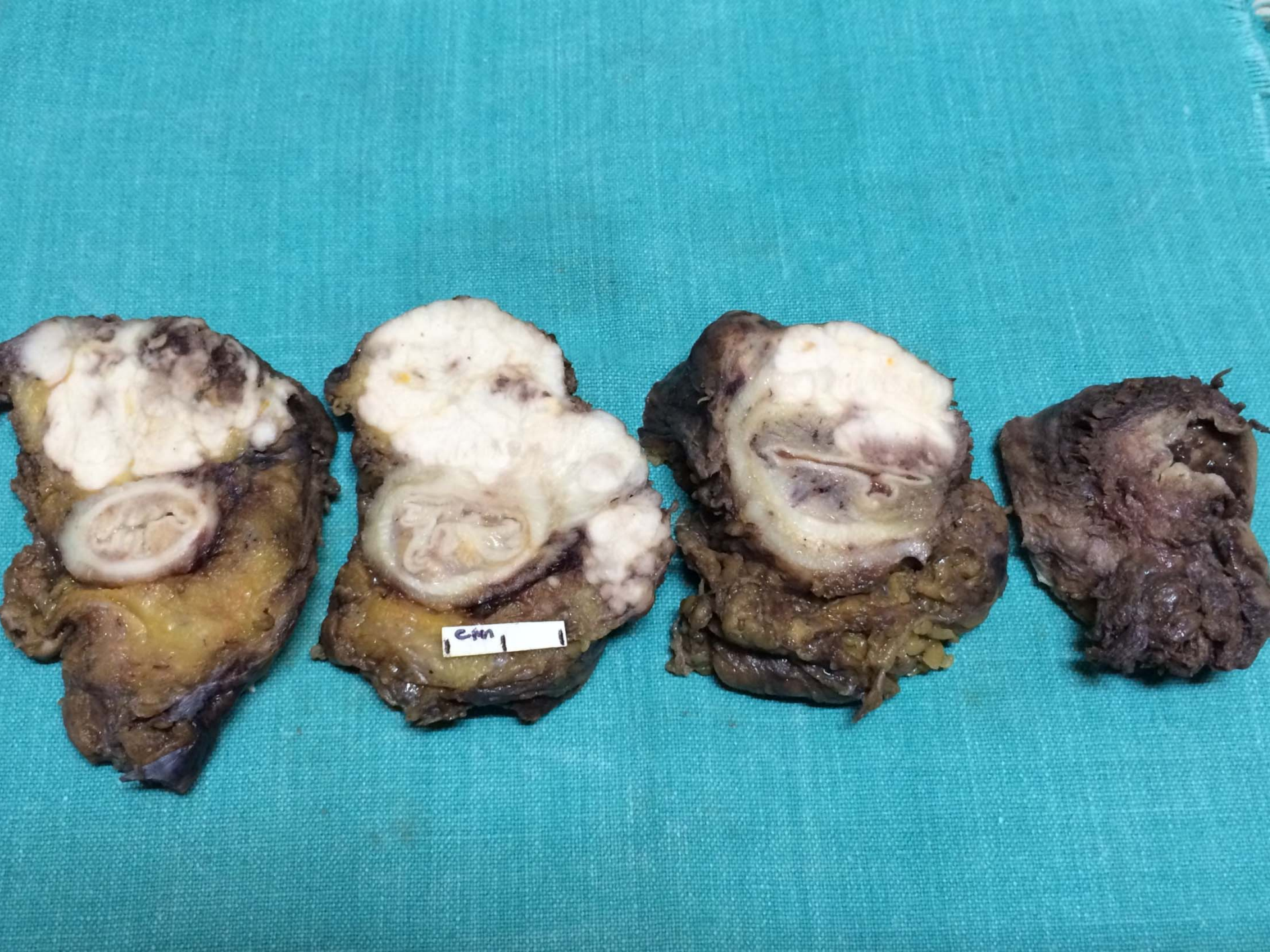


Figure 5 Measuring extramural spread and clearance of tumour from the non-peritonealised margin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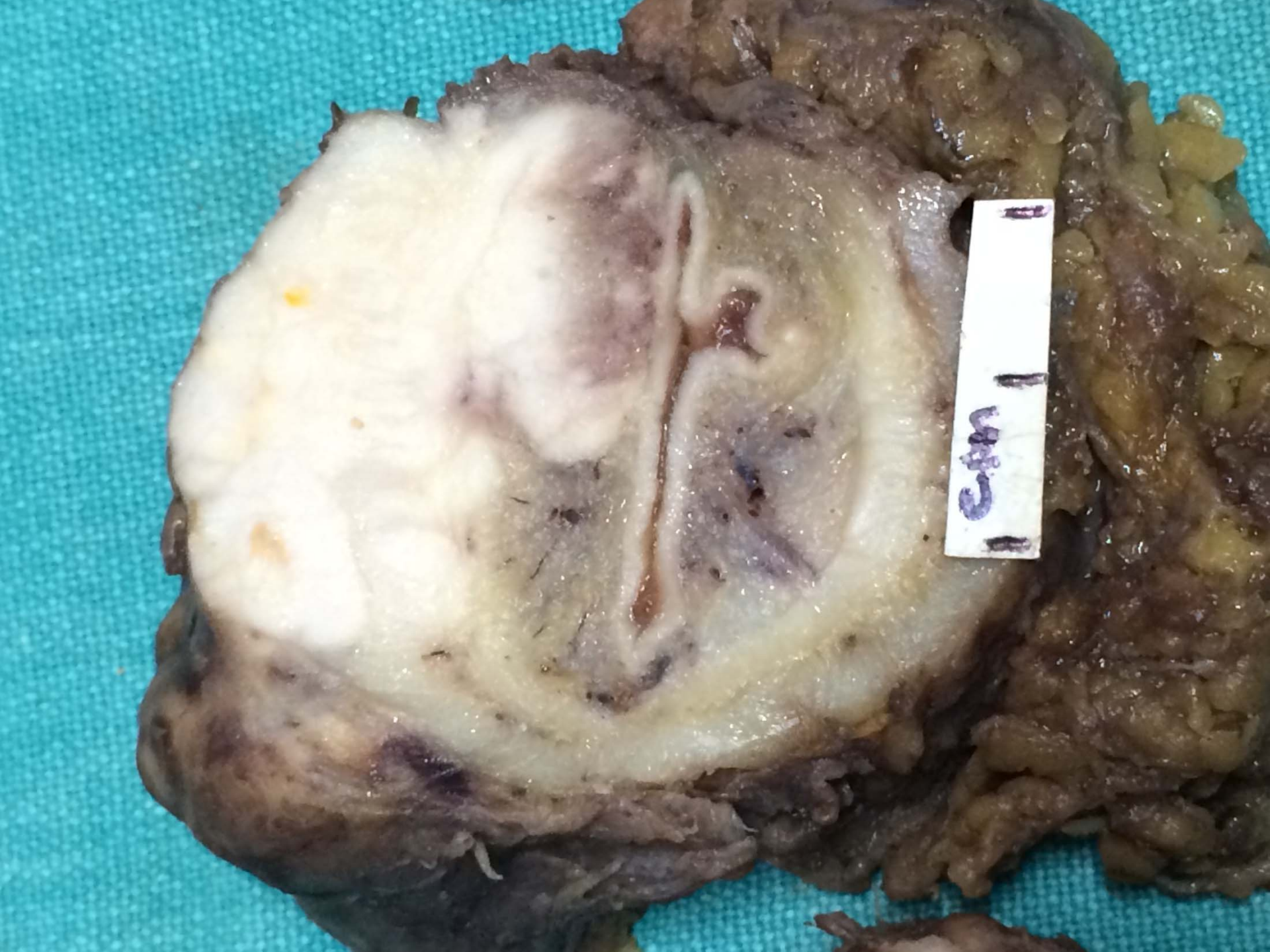

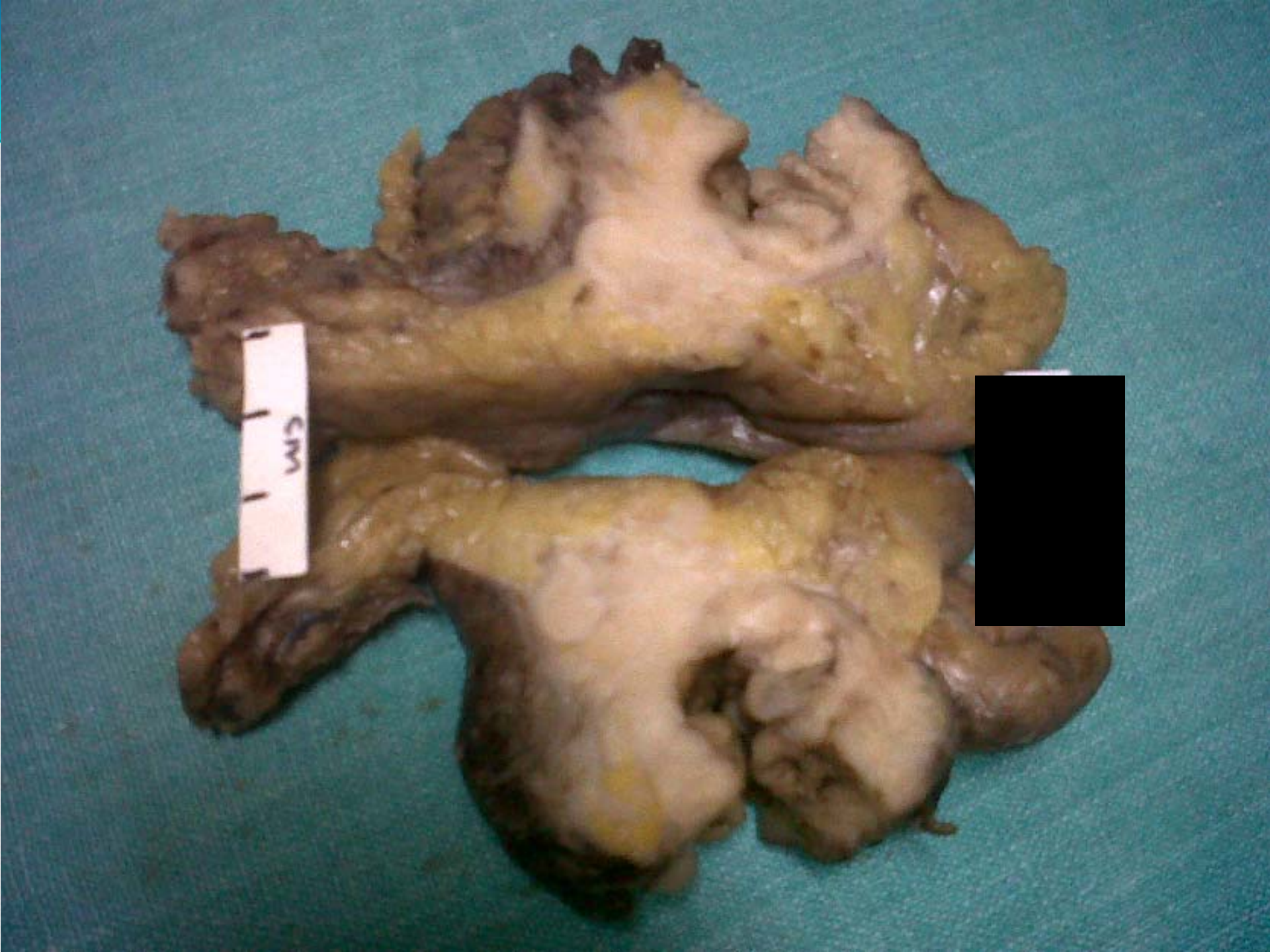
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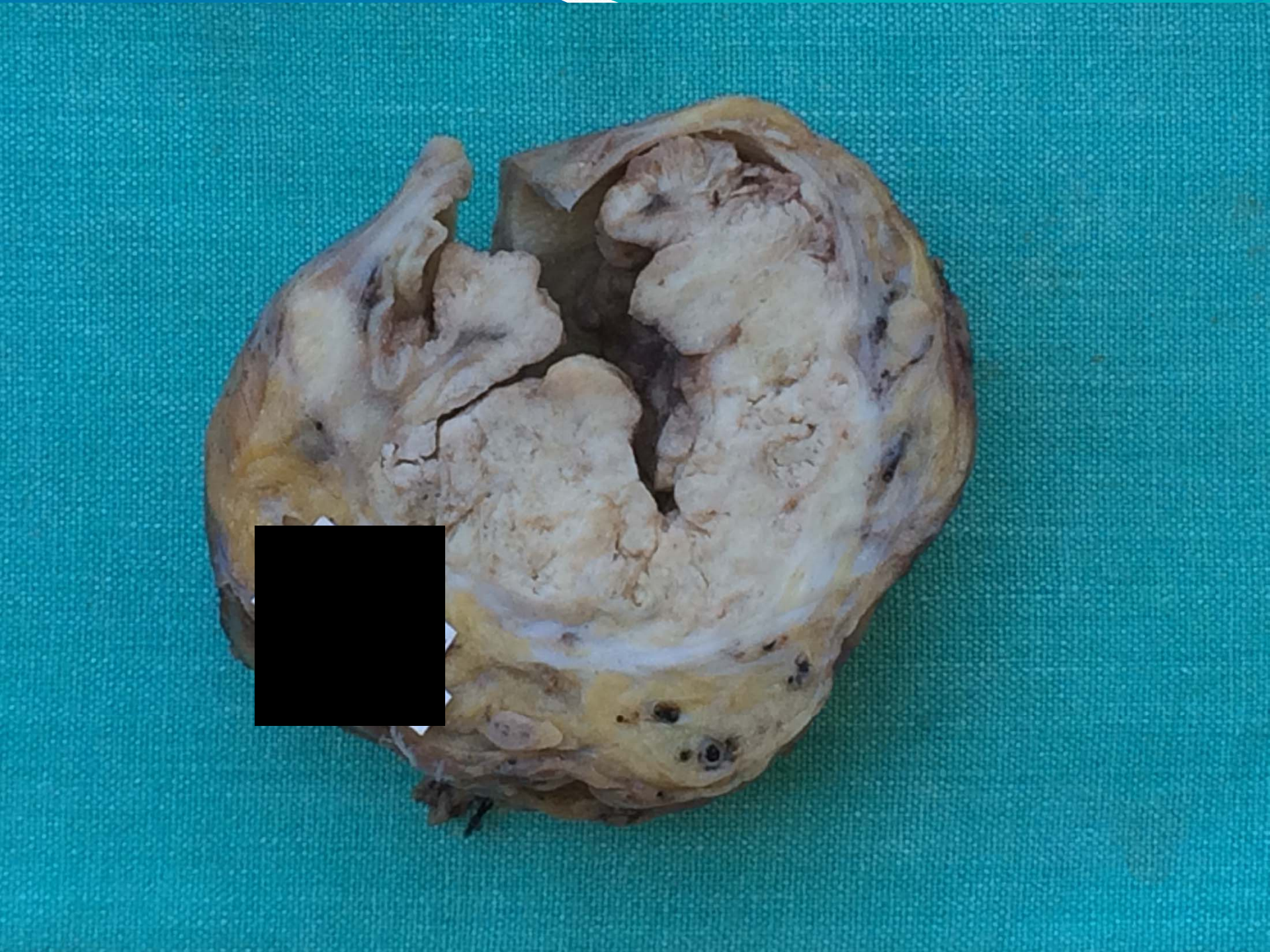
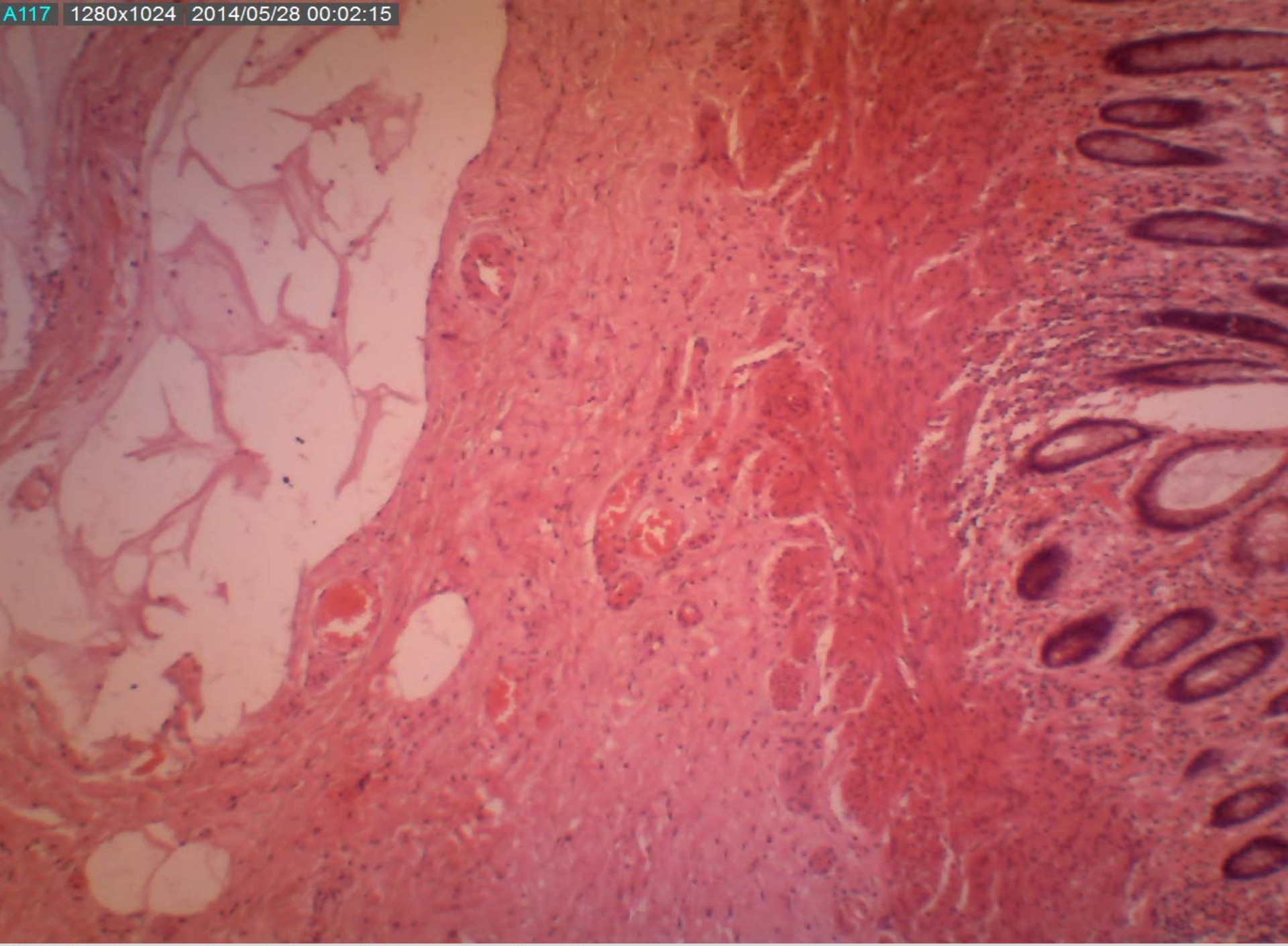
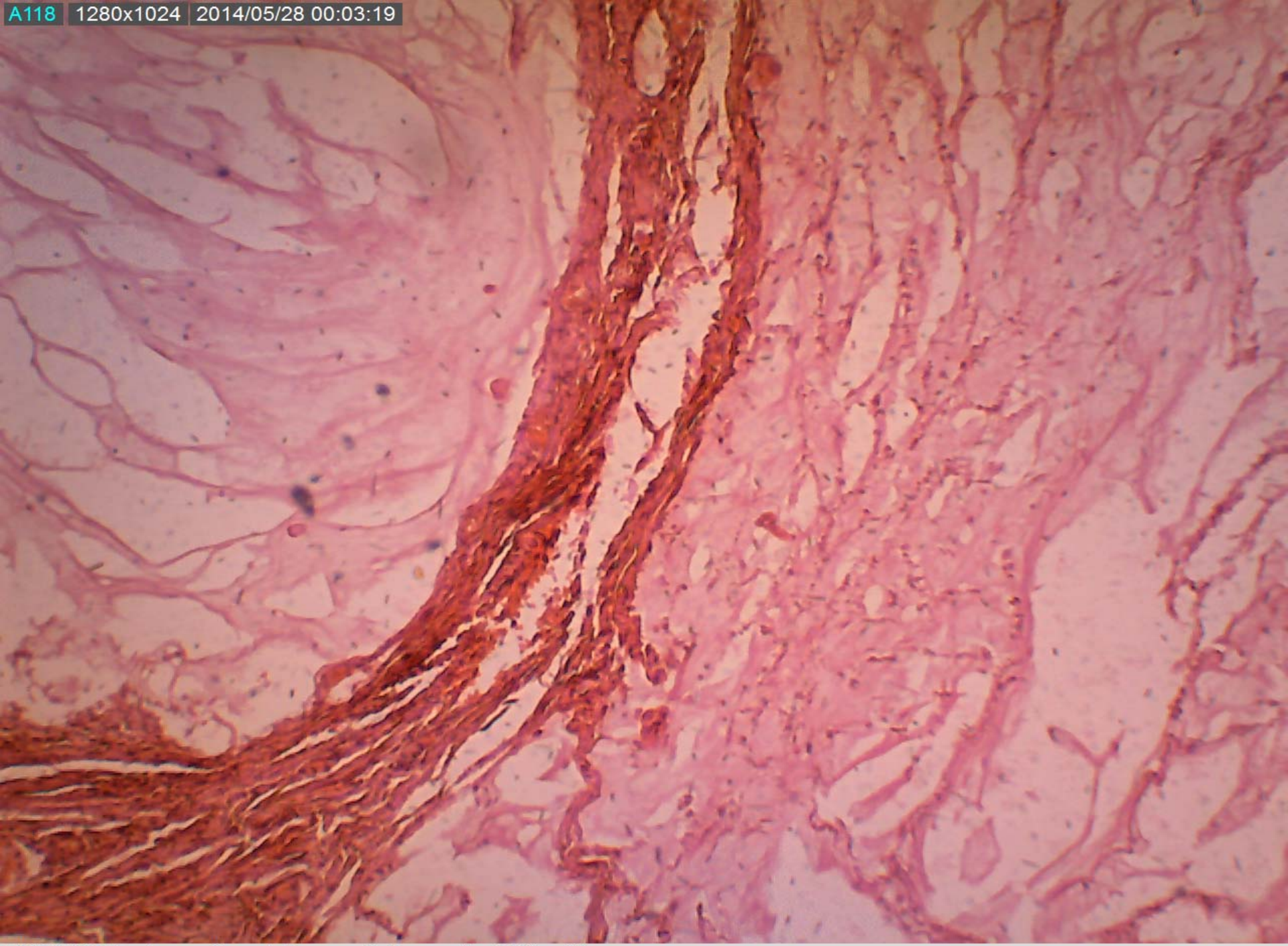




PK261/14-Post neoadjuvant chemoradiotherapy for CRC. x40



PK261/14-Post neoadjuvant chemoradiotherapy for CRC. x40

APPENDIX D PROFORMA FOR LOCAL EXCISION SPECIMENS

Surname: ..... Forenames: ..... Date of birth: .....

Hospital..... ..... Hospital no: ..... NHS no: .....

Date of receipt: ..... Date of reporting: ..... Report no: .....

Pathologist: ..... Surgeon: ..... Sex: .....

Specimen type

Polypectomy / Endoscopic mucosal resection / Transanal endoscopic microsurgical (TEM) excision / Other

Comments: .....

Gross description

Site of tumour .....

Maximum tumour diameter (if known) ..... mm

Histology

Tumour type

Adenocarcinoma Yes ☐ No ☐

If No, Other .....

Differentiation

Well/moderate ☐ Poor ☐

Local invasion

Confined to submucosa (pT1) ☐

Into muscularis propria (pT2) ☐

Beyond muscularis propria (pT3) ☐

For pT1 tumours:

Maximum thickness of invasive tumour from muscularis mucosae .....mm

Haggitt level (polypoid tumours) 1 / 2 / 3 / 4

Kikuchi level (for sessile/flat tumours) sm1 / sm2 / sm3

Lymphatic or vascular invasion:

None ☐

Possible ☐

Definite ☐

Background adenoma: Yes ☐ No ☐

Margins

Not involved ☐

Involved by adenoma only ☐

Deep margin Involved by carcinoma ☐

Peripheral margin Involved by carcinoma ☐

Histological measurement from carcinoma to nearest deep excision margin.....mm

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Pathological staging

Complete resection at carcinoma at all margins

Yes (R0) ☐ No (R1 or R2) ☐

pT stage .....

Signature: ..... **Date** ...../...../..... **SNOMED codes** T..... / M.....

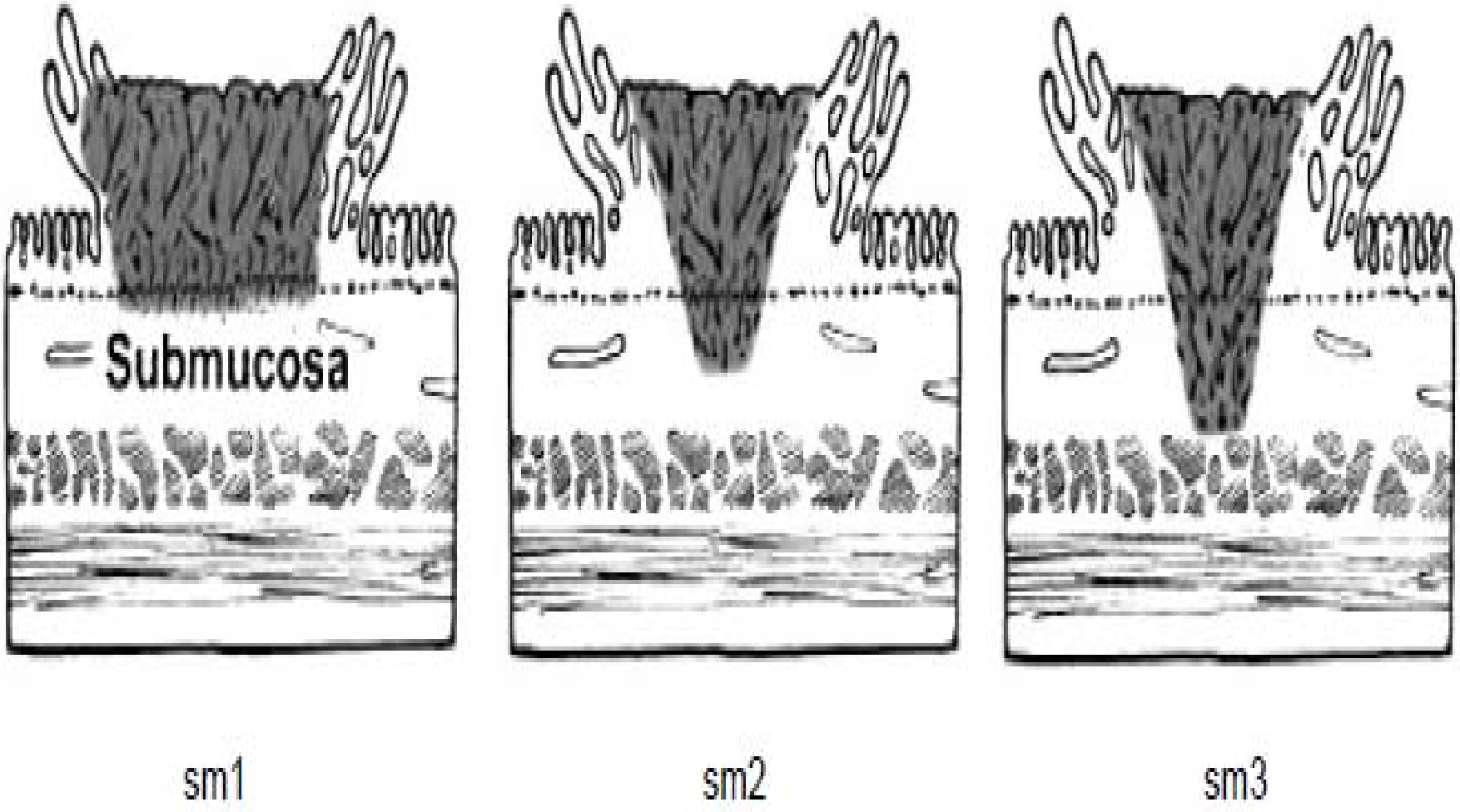

Figure 6 Kikuchi levels of submucosal infiltration[48]

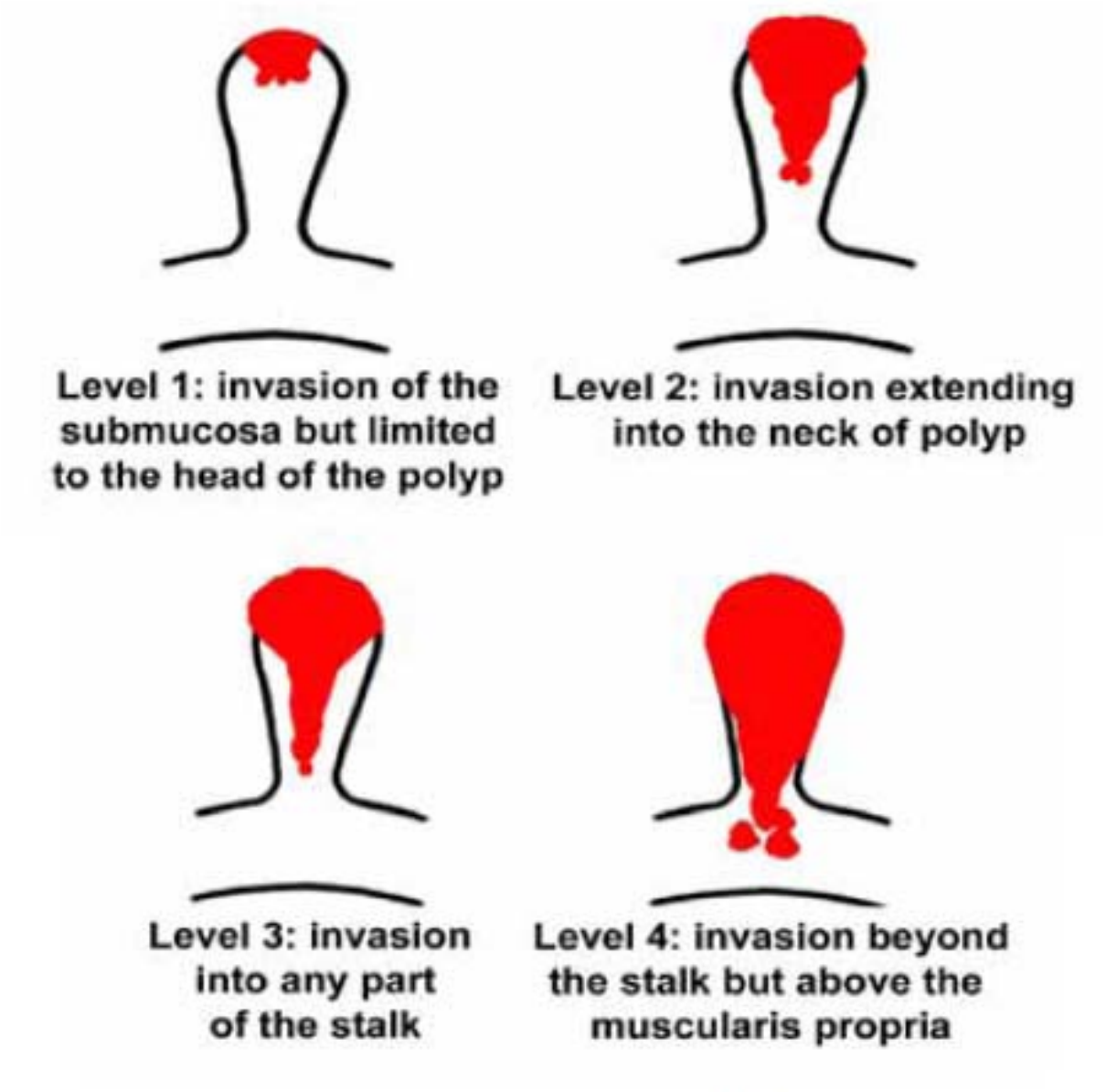

Figure 7 Haggitt levels of invasion in polypoid carcinomas[49]

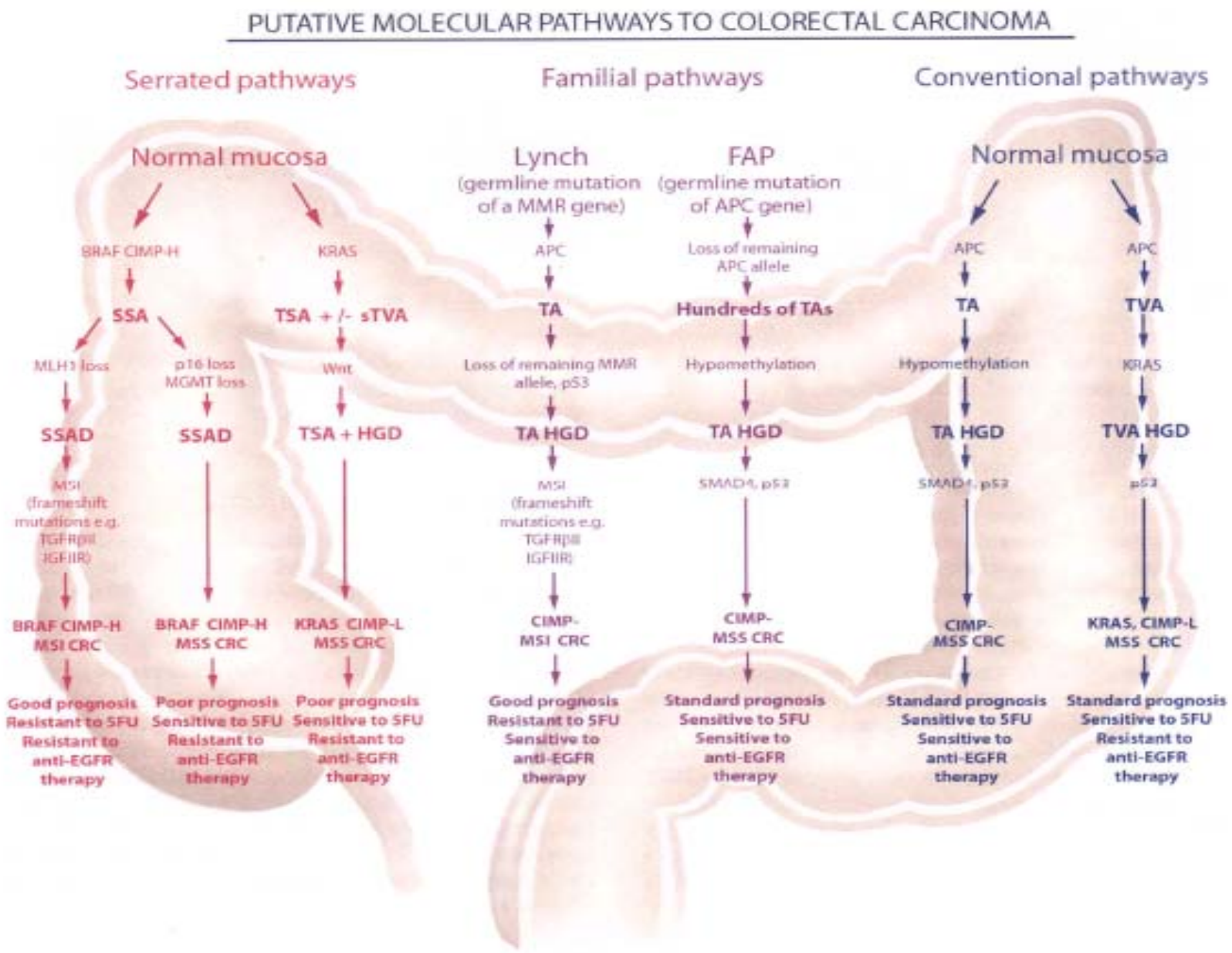

Figure 11. Putative pathways to colorectal cancer.

Thank you