pathology of tumours of the lower gastrointestinal tract

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who gets colorectal cancer?
familial adenomatous polyposis

normal epithelium \[\rightarrow\] adenoma \[\rightarrow\] colorectal adenocarcinoma

cytoplasm

nuclear membrane

nucleus

DNA

beta catenin

GSK

apc
apc GSK beta catenin

apc GSK beta catenin

epithelial proliferation

adenoma

beta catenin

beta catenin

beta catenin

beta catenin
hereditary nonpolyposis colorectal cancer (HNPCC)

reasons for identifying HNPCC cancers

- risk of further cancers in index patient and relatives
- possible implications for therapy
  - tolerance of 5-FU etc.
  - do not recognise DNA damage
  - apoptosis not activated
macroscopic features of colorectal cancer

Figure 1.1: Percentage distribution of cases by site within the large bowel, England 1997-2000

38%

31

colorectal cancer - microscopic

- adenocarcinoma

colorectal cancer staging & prognosis
Posterior view of total mesorectal excision of rectal cancer

Anterior view of total mesorectal excision of rectal cancer

Transverse slices of specimen

Rectal cancer

Involved lymph node
resection margins
resection coding

• R0 - tumour completely excised locally
• R1 - microscopic involvement of margin by tumour
• R2 - macroscopic involvement of margin by tumour

prognosis and circumferential resection margin (CRM)

• CRM +ve  20% 5 year survival with 85% risk of local recurrence
• CRM –ve  75% 5 year survival with 10% risk of local recurrence

why stage?
Dukes' B pT3pN0

Dukes' C1 pT3pN1

Dukes' C1 pT3pN1

Dukes' C2 pT3pN2

Dukes' A pT2

Dukes' B pT3
Dukes’ stage and prognosis

- A 95% 5 year survival
- B 75% 5 year survival
- C 35% 5 year survival
- D 25% 5 year survival