BRACHYTHERAPY FOR GASTROINTESTINAL CANCER

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DISTRIBUTION OF PATIENTS

- Breast
- Prostate
- Gynecology
- Others
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Figure 12.7 Variation of cell kill around a point source of radiation. The source gives 0.87 Gy min\(^{-1}\) at 2 cm (i.e. 75 Gy in 6 days); there are 10\(^6\) cells per cm\(^2\), for which \(\alpha = 0.35\) Gy\(^{-1}\), \(\beta = 0.015\) Gy\(^{-1}\), half-time for recovery is 1 h. (a) The hatched area indicates the volume within which the surviving fraction is below 10\(^{-6}\). The stippled area indicates the volume where survival is between 10\(^{-3}\) and 10\(^{-6}\), which is the critical region for tumor control. For comparison, panel (b) shows the type of profile that would be aimed for with external-beam radiotherapy.
Clonogen density around GTV

Clinical target volume

Intermediate-risk CTV
High-Risk CTV
BRACHYTHERAPY FOR OESOPHAGEAL CANCER
BRACHYTHERAPY FOR BILIARY TRACT NEOPLASMS
CARCINOMA OF AMPULLA OF VATER (TRANS DUODENAL EXPOSURE)

BENIGN PAPILLOMA OBSTRUCTING COMMON BILE DUCT; DILATATION OF DUCT AND GALLBLADDER
Ca of CBD Bifurcation

PRIMARY STENOSING CARCINOMA OF COMMON BILE DUCT EXTENDING TO EXTRA-AND INTRAHEPATIC DUCTS AND HILAR NODES; HYDROPS OF GALLBLADDER, HYDROHEPATOSIS
Klatskin tumor
ERCP: Distal CBD Cancer
BRACHYTHERAPY FOR ANAL CANAL CANCER
Anatomic features
Implantation

- Ring template
  - Spacement : 1 cm

- Rigid Needles
  - 4 to 6 Ir wires
  - 4-5 cm long

- Paris System rules

Courtesy: Dr Peiffert
Implantation

- Under digital control
  - Under the mucosa
  - 3-5 mm depth

- Rectal tube to push away controlateral anal canal wall

Courtesy: Dr Peiffert
CONCLUSIONS