αντι-αγγειογενετικοί παράγοντες & ακτινοθεραπεία

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Ακτινοθεραπευτής Ογκολόγος

general facts

- more than half of cancer pts undergo RT at some stage during their treatment

  curative intent

  palliative

general facts

- improved clinical benefit of radiotherapy

  understanding radiobiology

  technical advancements

general facts

- technical advancements

  intensity modulated radiation therapy (IMRT)

  volumetric modulated arc therapy (VMAT)

  image guided radiation therapy (IGRT)

  respiratory gated radiation therapy

  proton beam therapy

  - hypofractionated radiotherapy
  - stereotactic radiotherapy

general facts

- understanding radiobiology

5 + 1 R's of radiotherapy:

Repair: by applying fractionated RT, normal cells have the opportunity to repair sublethal DNA damage between each fraction while cancer cells are unable to sufficiently repair DNA damage due to defective or suppressed repair pathways

Redistribution: Fractionated RT increases the chance that cells that were in a radioresistant phase

Repopulation: the increase in cell division that is seen in normal and cancer cells after

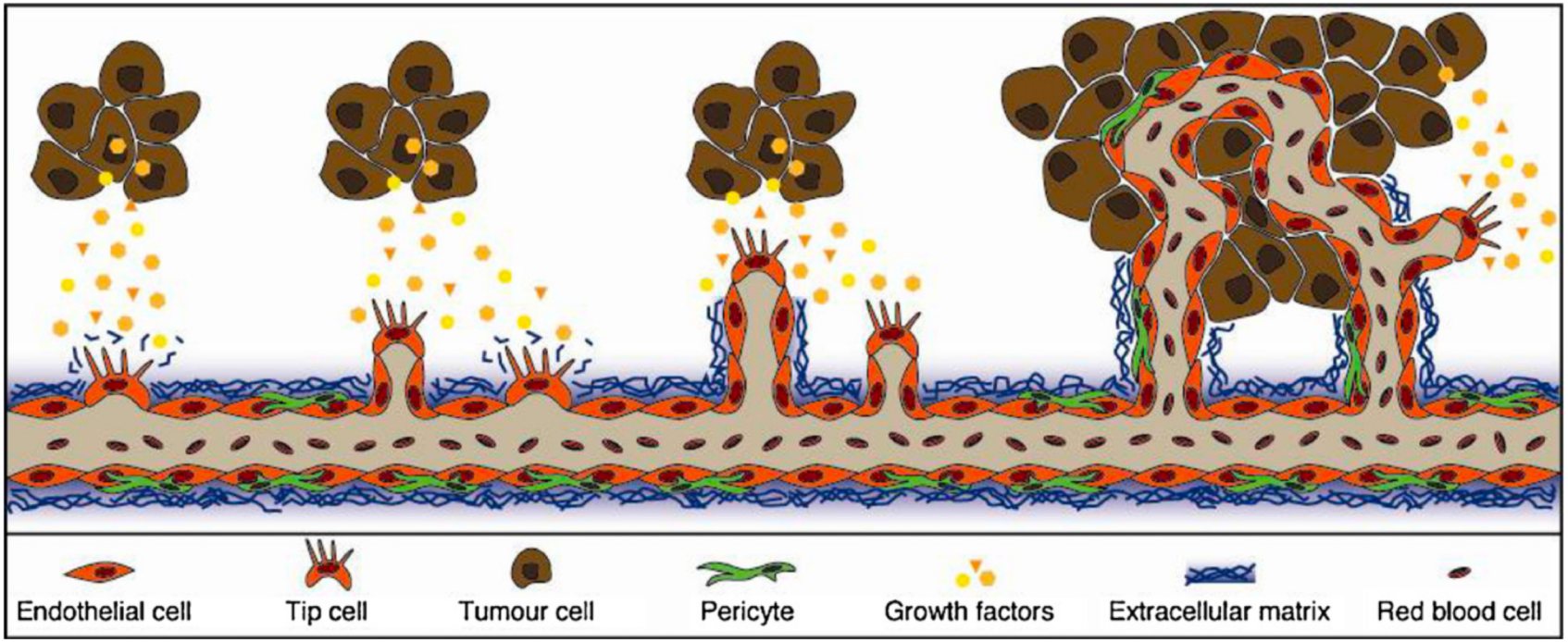
Radiosensitivity refers to the intrinsic radiosensitivity or radioresistance of different cell types

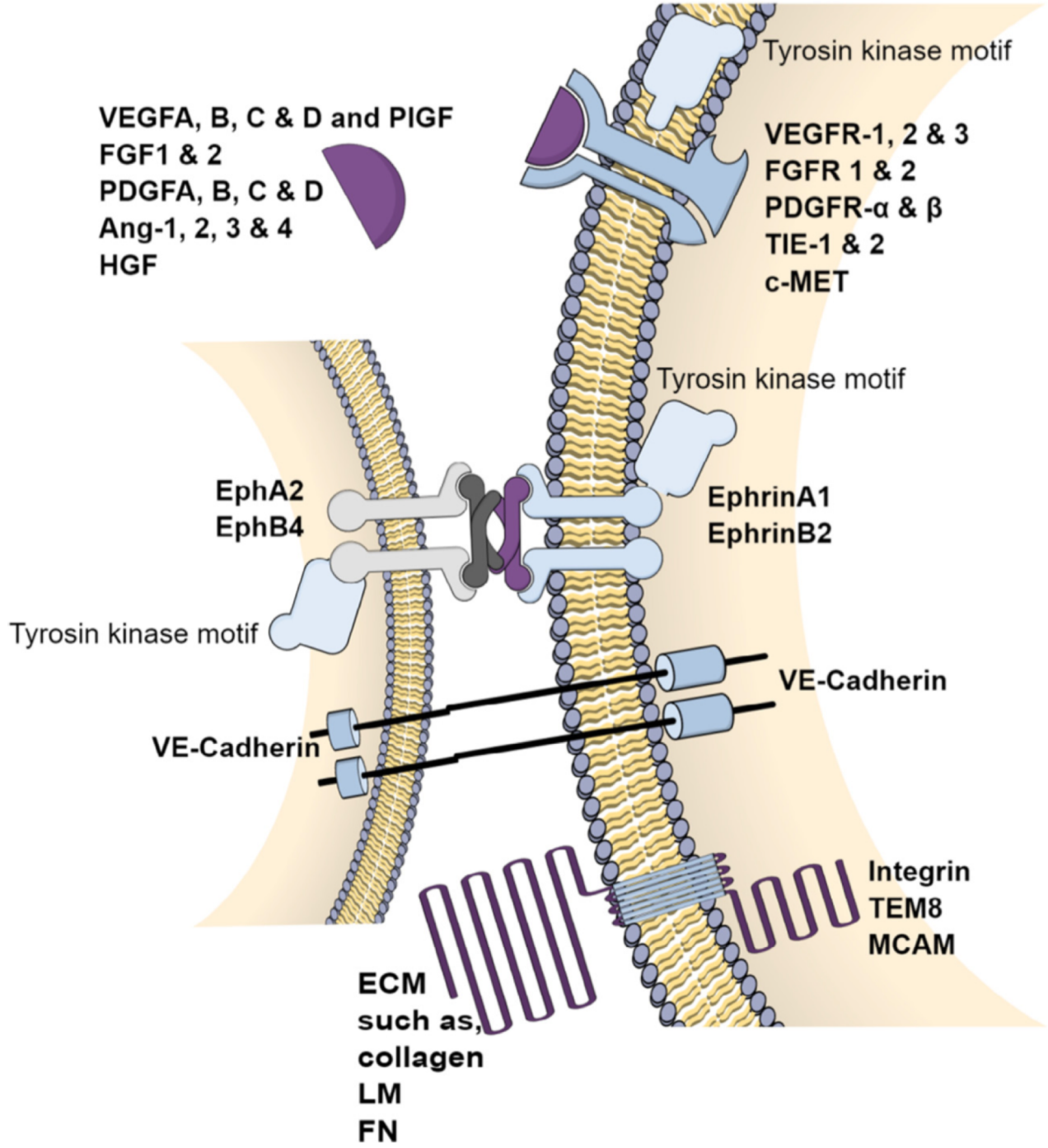
Reoxygenation is related to the dynamic and changing hypoxic status of tumor tissue. Fractionated RT increases the chance that all areas of the tumor tissue receive a dose of irradiation when oxygenation is improved

Reactivation of the anti-tumor immune response

angiogenesis and cancer therapy

tumor angiogenesis




Tyrosin kinase motif
VEGFA, B, C & D and PlGF
FGF1 & 2
PDGFA, B, C & D
Ang-1, 2, 3 & 4
HGF
VEGFR-1, 2 & 3
FGFR 1 & 2
PDGFR-α & β
TIE-1 & 2
c-MET
Tyrosin kinase motif
EphA2
EphB4
EphrinA1
EphrinB2
Tyrosin kinase motif
VE-Cadherin
VE-Cadherin
Integrin
TEM8
MCAM
ECM
such as,
collagen
LM
FN

Bevacizumab	Humanized monoclonal anti-VEGF-A antibody
Ziv-aflibercept	Fusion protein against VEGF-A, VEGF-B and PlGF
Sorafenib	Multi-tyrosine kinase inhibitor
Sunitinib	Multi-tyrosine kinase inhibitors
Axitinib	Receptor tyrosine kinase inhibitor
Nintedanib	Receptor tyrosine kinase inhibitor
Regorafenib	Receptor tyrosine kinase inhibitor
Pazobanib	Receptor tyrosine kinase inhibitor
Cabozantinib	Receptor tyrosine kinase inhibitor
Vandetanib	Receptor tyrosine kinase inhibitor
Thalidomide	Inhibitor of Akt phosphorylation

radiotherapy and hypoxia