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LISBOA



Assessment of the potential of radiosensitizers to improve the efficacy of Radiation Therapy

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GOALS

Investigate the ability of radiosensitizers to enhance radiation therapy

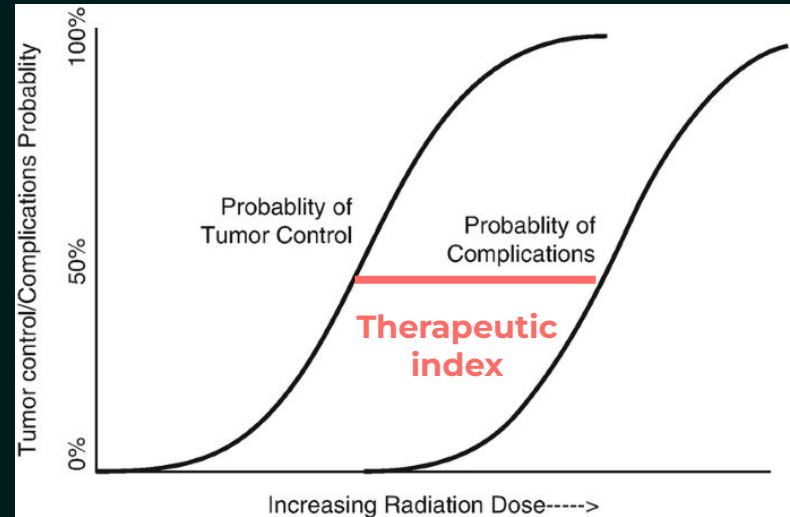
Assess the impact of radiosensitizers in radiotherapy treatment planning

Goals

Minimize the radiation dose to healthy tissues

Maximize the dose delivered to the tumor

Therapeutic Index



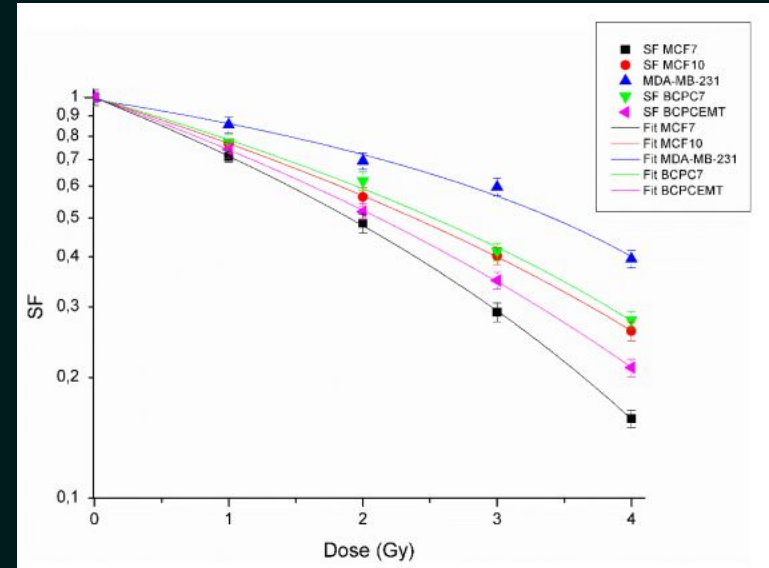
Therapeutic Index and its clinical significance

Methods

Clonogenic Assay

Cell survival after exposure to ionizing radiation

Survival Curve



Survival curves of breast cancer cells following exposure to varying doses of therapeutic X-rays

Methods

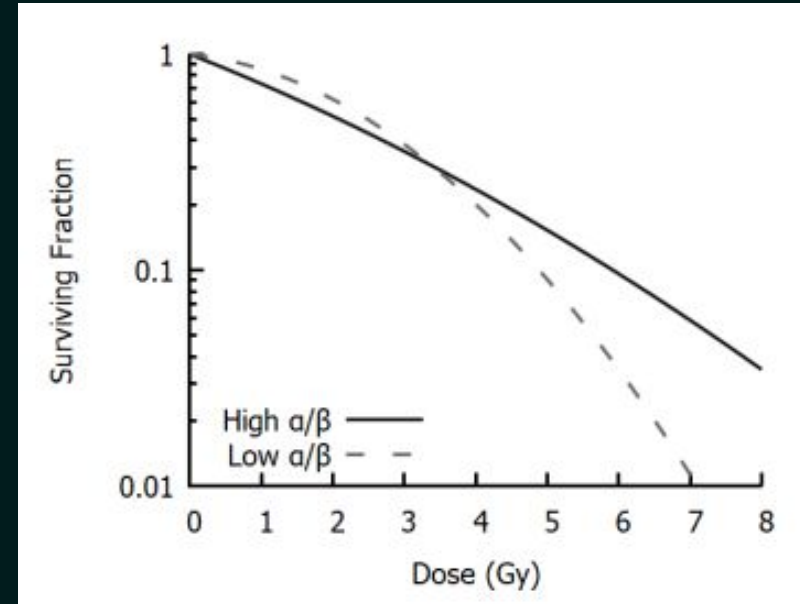
Linear Quadratic Model



Biological response of
tissues to radiation

$$SF = e^{-\alpha D - \beta D^2}$$

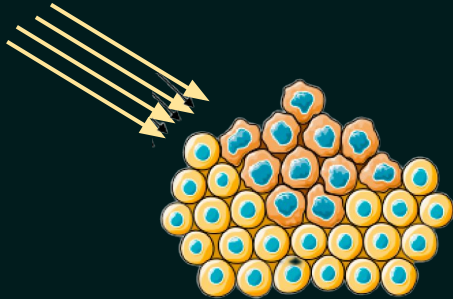
Radiosensitive
parameters
 α and β



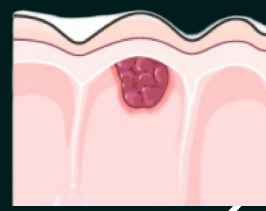
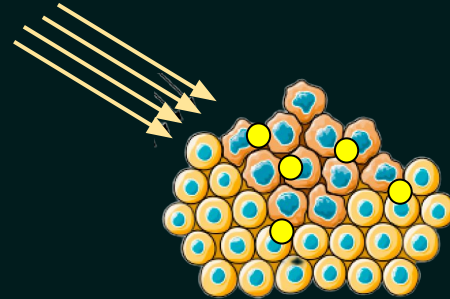
Comparison between two different cell lines, one with higher α/β ratio and other with lower.

Conclusion

**Ionizing
Radiation**



**Ionizing
Radiation**



Thank you!

Do you have any questions?

