

Special Issue

Novel Radiotherapeutic Approaches: Molecular Aspects and Radiobiological Mechanisms

Message from the Guest Editor

Therapies with a significant impact on tumour control or sparing of normal tissues are still in their preclinical stages or waiting for clinical validation. Similar to the transition from standard (2Gy/fraction) to altered fractionation schedules, radiotherapy delivery has undergone important evolutions from conventional to nonconventional administration. High-dose, spatially fractionated radiation also known as GRID therapy has been clinically evaluated over the last few decades using various grid designs to allow for a non-uniform dose delivery. With a similar concept, a more recently developed nonconventional irradiation technique employing minibeam via an array of closely spaced beams is appraised. This form of beam settings is thought to influence cell signalling via abscopal effects, leading to the difference in response between malignant and healthy cells. The aim of this Special Issue is to encompass both review articles and original research on the molecular and radiobiological aspects behind the success of nonconventional radiation delivery, including radiobiological modelling and laboratory research.

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