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Bajo la punta del iceberg: nuevos haces para nuevos tratamientos

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The therapeutic use of ionizing radiation has been largely guided by the goal of directly eliminating all cancer cells while minimizing the toxicity to adjacent tissues. Nowadays, technological advances in radiation delivery, including image guidance and particle therapy (i.e. proton therapy), have notably improved tumor dose conformation, thus reducing the dose to the organs-at-risk. Despite remarkable advancements, the dose tolerances of normal tissues continue to be the main limitation in RT and still compromise the treatment of some radioresistant tumors, tumors close to a sensitive structure (e.g. central nervous system (CNS)) and pediatric cancer. One possible way to overcome this limitation is to employ new modes of radiation dose deposition that activate biological processes different from those in standard radiotherapy. Some examples are FLASH therapy, the spatial fractionation of the dose or the use of very high energy electrons. This lecture will give a general overview about these strategies.

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