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Applied radiation biology and radiotherapy coordinated research projects of the International Atomic Energy Agency (IAEA)

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The Applied Radiation Biology and Radiotherapy (ARBR) Section of the Division of Human Health at the Department of Nuclear Sciences and Applications of IAEA performs a number of Coordinated Research Projects (CRPs). Radiation oncology research is represented but not limited to: (i) Randomized Phase III Clinical Trial of Stereotactic Body Radiation Therapy Versus Transarterial Chemoembolization in HCC - Hepatocellular Carcinoma (2014-2018), which was designed to demonstrate equivalence/superiority of SBRT given upfront over TACE in terms of any disease progression in previously untreated patients with HCC; (ii) Evidence-Based Assessment of Radiotherapy Demand and Quality of Radiotherapy Services (2014-2017), this project estimates the optimal and actual radiotherapy utilization (RTU) rates in developing countries using an evidence-based methodology; (iii) Radiation Therapy Planning of Non-Small Cell Lung Cancer based on PET/CT (2014-2018) was set to improve the clinical outcomes of patients with NSCLC in Member States (MS) by the use of PET/CT in radiation therapy planning; (iv) Resource Sparing Curative Radiotherapy for Locally Advanced Squamous Cell Cancer of the Head and Neck (2010-2016) is a major project to improve policies in MS concerning radiotherapy and cancer treatment for HNSCC. Radiobiological research conducted by ARBR includes biodosimetry CRP: (i) Strengthening of Biological dosimetry in IAEA Member States: Improvement of current techniques and intensification of collaboration and networking among the different institutes (2012-2016). Another important area is tissue banking research, which was addressed by CRP (ii) Safety and Optimisation of Radiation Sterilisation in Tissue Banking: Studies on Functional Properties of Irradiated Tissue Grafts (2010-2015). It is followed by the tissue engineering CRP: (iii) Instructive Surfaces and Scaffolds for Tissue Engineering Using Radiation Technology (2014-2018).

Country

United Nation Organisation

Institution

International Atomic Energy Agency

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