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Global WARMTH for Patients with Cancer

Cancer is a leading cause of death and disability in the developing world and two thirds of the 7.5 million deaths every year from cancer world-wide occur in low and middle income countries.[1] These countries account for 80% of the disability-adjusted life years lost worldwide to cancer yet; receive only 5% of global resources for cancer.[1] Furthermore, 75% of patients in developing countries have advanced incurable cancer at diagnosis.

Therapeutic nuclear oncology has the potential to provide effective and safe control of metastatic cancer which is incurable by surgery. Simple radiopharmaceutical treatments may be translated practically and affordably for routine clinical application to cancer patient management in developing countries with basic hospital nuclear medicine infrastructure. It is the mission of WARMTH to facilitate and promote such establishment of therapeutic nuclear oncology worldwide.

Almost no cancer can be controlled by single modality treatment. Hence, therapeutic nuclear oncology has become an integrated speciality practised by nuclear physicians in collaboration with medical oncologists. They provide synergistic targeted radionuclide treatment in combination with chemotherapy and biological agents to optimise objective tumour response, prolong overall survival, and, by minimising toxicity, preserve and enhance quality of life.

Multimodality radionuclide therapy is in its infancy and currently depends upon physician-sponsored early phase clinical trials to demonstrate proof-of-concept. Such single institution studies of radioimmunotherapy and radiopeptide therapy, with radiosensitizing chemotherapy, have shown encouraging outcomes.[2] However, the evidence base upon which medical oncologists depend may only be attained by large multicentre randomised Phase II/III clinical trials, before such radionuclide based treatment can be widely incorporated into routine management of cancer patients.

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Meanwhile, to address what has been termed "an evidence free zone" by oncologists, members of WARMTH may coordinate physician-sponsored Phase II therapeutic nuclear oncology studies, on standardised protocols of eligibility, treatment and outcome evaluation, to provide sufficient power for valid statistical analysis to provide the robust evidence base required by our medical oncologist colleagues.

The first step is to formulate Standard Operating Procedures (SOPs) for reliable preparation and quality control of specific therapeutic radiopharmaceuticals and for determination of personalised dosimetry which may be rigorously and uniformly applied to practice of therapeutic nuclear oncology by members of WARMTH worldwide, as permitted by local and national regulatory authorities. In this issue of the World Journal of Nuclear Medicine, two complementary SOPs are presented for ^{131}I-rituximab radioimmunotherapy of non-Hodgkin lymphoma. Given the anticipated advent of generic monoclonal antibodies and consequent cost savings, such radioimmunotherapy may be affordable and practical in any hospital with basic nuclear medicine infrastructure.

In appropriate settings, radioimmunotherapy, like radiopeptide therapy, may be safely administered on an outpatient basis[3] which obviates the need for expensive, shielded hospital isolation rooms. Outpatient therapeutic nuclear oncology also facilitates multimodality therapy, in collaboration with medical oncologists, allowing compliance with rigorous chemotherapy regimens.

The 7th WARMTH International Conference on Radiopharmaceutical Therapy offers us all an opportunity for exploration of international physician collaborations in therapeutic nuclear oncology, and for the networking essential to the success of this grand enterprise worldwide.

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