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PROTON THERAPY – THE CURRENT SITUATION

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Over 50% of cancer patients are now cured using combinations of surgery, radiotherapy and drugs. Smart modern diagnostics have accelerated the time from first symptom to treatment so detecting cancer at an earlier stage. And we are at the threshold of a revolution in personalized medicine based on genomics. This is a very exciting time for oncology. As always, the key to the delivery of excellence in cancer care is putting the patients right at the center of the pathway. That is why the Rutherford Cancer Centers are designed to deliver all modalities of care other than surgery in a relaxed and pleasant environment. Radiotherapy is used in half our patients to eradicate primary tumours. Proton therapy (PT) allows the more precise delivery of radiotherapy and so reduces long term damage to normal tissues surrounding a cancer. But it is expensive, costing two to ten times more per treatment, depending on the system type. Meaningful, large scale, randomized trials with protons versus photons are unlikely for all clinical indications. Instead, the pre-treatment comparison of proton beam therapy (PT) versus state of the art intensity modulated radiotherapy (IMRT) in individual patients using pre-set metrics of plan quality will be used for deciding whether PT has significant advantages. This assessment can be made objectively by treatment planning software systems. Payers, government and insurers, will use set criteria to assess the value of PT in an individual using a comparative equation incorporating tumor control, early and late toxicity and overall lifetime costs of care. Such analyses will determine the level of the therapeutic plateau in the relationship of cost to gain in clinical outcome. The range of published estimates for the optimal use of protons in radical radiotherapy ranges from 1% (UK, NHS) to 20% in the US. Recent policy studies from several European countries indicate a 10-15% PT use in patients if they are to be optimally treated with radical radiotherapy. That would require 10-20 PT facilities for Britain. We are building five centers in the UK, one in Abu Dhabi and one here in Dublin. Without this initiative, the quality of radiotherapy UK would seriously fall behind all our neighboring countries.

Biography

Karol Sikora is Founder and Chief Medical Officer of Proton Partners International. He was also Founder and CMO of Cancer Partners UK, now Genesis Care, which built Britain's largest network of independent cancer treatment centers. He was Professor and Chairman of the Department of Cancer Medicine at Imperial College School of Medicine and is still honorary Consultant Oncologist at Hammersmith Hospital, London. He is Dean of Medicine at Britain's first independent Medical School at the University of Buckingham. He is a Fellow of Corpus Christi College, Cambridge where he obtained a double first and trained at The Middlesex and St Bartholomew's Hospitals, researching with Nobel Prize winner, Dr. Sydney Brenner. He was Chief of the WHO Cancer Programme for three years and has published over 300 papers and written or edited 20 books.

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