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CommNETS survey of current local practices towards Peptide Receptor Radionuclide Therapy (PRRT) and Functional Imaging (FI) for Neuroendocrine Tumours (NETs). (#16)

Bryan A Chan [1] , Hao-Wen Sim [1] , Aravind RaviKumar [2] , Dale Bailey [3] , David Chan [4] , Ben Lawrence [5] , Sandy McEwan [6] , Nick Pavlakis [7] , Eva Segelov [8] , Simron Singh [4] , Paul Roach [3] , David Wyld [9]

1. *Department of Medical Oncology and Hematology, Princess Margaret Cancer Centre, Toronto, Ontario, Canada*
2. *Department of Nuclear Medicine, Peter MacCallum Cancer Centre, Melbourne, Vic, Australia*
3. *Department of Nuclear Medicine, Royal North Shore Hospital, St Leonards, NSW, Australia*
4. *Department of Medical Oncology, Sunnybrook Odette Cancer Centre, Toronto, Ontario, Canada*
5. *Department of Medical Oncology, Auckland City Hospital, Auckland, New Zealand*
6. *Department of Oncology, University of Alberta Cross Cancer Institute, Edmonton, Alberta, Canada*
7. *Department of Medical Oncology, Royal North Shore Hospital, St Leonards, NSW, Australia*
8. *Department of Medical Oncology, St Vincent's Hospital, Darlinghurst, NSW, Australia*
9. *Department of Medical Oncology, Royal Brisbane and Women's Hospital, Brisbane, QLD, Australia*

Background

There has been increasing interest and uptake of Functional Imaging (FI) and Peptide Receptor Radionuclide Therapy (PRRT) for the management of Neuroendocrine Tumours (NETs). Currently, there are no local consensus guidelines to inform best practice regarding integration of these modalities.

Methods

A survey of PRRT centres within CommNETS was conducted to explore the availability and use of FI and PRRT. Two companion surveys were completed by the lead in nuclear medicine and medical oncology per site. Descriptive and inferential statistical methods including non-parametric analyses were performed to evaluate differences in availability and use of FI and PRRT, models of care, protocols and funding.

Results

Sixteen surveys were sent to the eight PRRT centres across CommNETS (Aust:6, Canada:2, NZ:0). Response rate was 100%. All were academic centres reviewing 1-10 new and 1-40 follow-up patients per month.

Within Australia, tandem Gallium-68 (Ga) and 18-Fluorine (FDG) positron emission tomography (PET) scans were used to stage and assess biology and heterogeneity of NETs. Ga-PET scans were unavailable in Canada so Octreotide scans were used instead. Although FDG-PET was unfunded for NETs, it was routinely ordered (63%) for grade 2 and 3 NETs. To assess response, 63% used Ga-PET at 6-monthly intervals and 38% ordered both Ga- and FDG-PET scans.

Lutetium-177 was the standard therapeutic isotope for most indications. One site utilised Indium-111 for significant bone involvement and Yttrium-90 for bulky disease. Radiosensitising chemotherapy was used in five centres usually with capecitabine alone (45%) or capecitabine-temozolomide (36%). Four cycles of PRRT was universal but intervals varied between every 8-weeks (50%), 6-weeks (25%) or 10-weeks (25%). Three centres utilised maintenance PRRT cycles, including both sites from Canada. Considerable variation existed regarding concurrent somatostatin analogue usage, determination of renal function, dosimetry, dose adjustments and minimum haematological parameters. Only five sites recorded quality of life outcomes.

Conclusions

This is the first survey to assess the current practices towards FI and PRRT within CommNETS. Future collaborative efforts can help develop best practice guidelines based on shared knowledge from experienced centres.