

of educational seminars about issues related to palliative care at local and national surgical meetings. Over the past 18 months, a series of articles on palliative care relevant to surgeons has been published in the *Journal of the American College of Surgeons*, including one on clinical research.²

Canadians have long been leaders in palliative care research, and there is a tremendous opportunity to continue this tradition. I would simply ask that the surgical specialties be considered as contributors to this effort.

Alexandra Easson

Department of Surgical Oncology
Princess Margaret Hospital
University Health Network
Toronto, Ont.

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[The authors respond:]

Alexandra Easson correctly points out that many initiatives in end-of-life and palliative care are in progress across Canada. We are delighted that physicians in the surgical specialties are addressing the needs of their dying patients and hope that the leaders in this field will remain significant contributors to the future of end-of-life and palliative care in Canada for all patients.

One theme of the recent multidisciplinary meeting to assess research into palliative and end-of-life care in Canada, sponsored by the Canadian Institutes of Health Research and described in our recent commentary,¹ concerned the needs of noncancer patients. These patients face the prospect of a protracted but unpredictable course in the last stages of their illness. Since the publication of our commentary, we have been contacted by rural general practitioners, generalists, palliative care physicians and specialists from many backgrounds, a clear reflection of

their involvement in the care of these patients, and we sincerely thank them for their interest.

Graeme Rocker

Department of Medicine
Dalhousie University
Halifax, NS

Daren Heyland

Department of Medicine
Queen's University
Kingston, Ont.

Reference

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Stereotactic radiation for pituitary adenoma

We are writing to provide information to supplement Usman Chaudry's¹ reference to the option of "stereotactic gamma-knife radiosurgery" for follow-up of residual tumour in a patient with a nonfunctioning pituitary macroadenoma.

The term "radiosurgery" implies delivery of a single large fraction of stereotactic radiation. Gamma-knife therapy does typically involve single-fraction treatment, because the patient must be positioned in a stereotactic head frame, and patient discomfort becomes a factor if more than one dose is required. However, for tumours such as pituitary adenomas, with proximity to the optic chiasm or tracts, medial temporal lobe or other important functional brain structures, it may be advantageous to use a fractionated technique (multiple treatments), with a smaller dose per fraction, to minimize injury to the adjacent normal tissues. Such treatment is properly referred to as "stereotactic radiotherapy."

The geometric advantage of the multiple beams or arc radiation used in stereotactic treatments declines with increasing tumour volume. Therefore, this treatment is generally considered only if the tumour is less than 3 to 4 cm in maximum dimension.

As opposed to the gamma-knife, lin-

ear accelerator (LINAC) radiation delivery systems have the versatility to be used for both radiosurgery and fractionated stereotactic radiotherapy. In addition, LINAC systems have a micro-multileaf collimator, which can produce complex beam shapes, and therefore can be used to deliver treatment with a single complex isocentre. This feature can achieve superior conformity and homogeneity of the radiation dose over the multiple-isocentre approach of the gamma-knife.

The Stereotactic Radiotherapy Program at Dalhousie University is the referral centre for Atlantic Canadian patients requiring such treatment. We usually treat residual or recurrent pituitary adenomas with a fractionated LINAC-based technique, as do all other Canadian centres offering this treatment modality. Others have identified the advantage of this fractionated approach.²

Liam Mulroy

Dorianne E. Rheume
Department of Radiation Oncology
Ian Fleetwood
Division of Neurosurgery

Jason Schella

James Robar
Department of Radiation Oncology —
Medical Physics
Dalhousie University
Queen Elizabeth II Health Sciences
Centre
Halifax, NS

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Competing interests: None declared.

Correction

An error was made in the spelling of Dr. Paul Varughese's name in a recent article on the threat of measles (*CMAJ* 2003;169[11]:1200).