

## SURGERY IN THE ELDERLY PATIENT: A TIME FOR REAPPRAISAL

Jean-Louis Caron, MD, FRCSC\*

In this issue (pages 147 to 150), Bernstein addresses the issue of brain tumour surgery in the elderly patient. Although Bernstein's discussion applies only to a small subgroup of the general population, surgery in the elderly is of concern to all physicians and surgeons. Should high-risk surgical procedures be offered to an aging population? Who is to decide when, and at what cost, treatment should be instituted?

An absolute definition of a geriatric population is impossible since arbitrary limits change constantly. The elderly, and in particular those older than 85 years, are the fastest growing segment of the Canadian population. Accordingly, overall life expectancy and active life expectancy have increased so that the average North American man and woman can expect to live another 14 and 18 years respectively after age 65.<sup>1</sup> We all have the perception that surgical risk is greater in elderly patients, and indeed it is. But what constitutes risk?

The higher risk of morbidity and mortality from surgery can be attributed to a decreasing physiologic reserve associated with the aging process and to an increased prevalence of age-related concomitant disease. Four important elements can be identified: decreasing pulmonary, cardiac, renal and

cognitive functions.<sup>2,3</sup> All four elements are more prevalent in the elderly, and up to 35% of people over the age of 85 years are frail or demented and unable to care for themselves.<sup>3</sup> However, elderly people form a heterogeneous group and some are, in fact, very healthy. In a multivariate analysis of mortality in older patients admitted to medical intensive care units, Mayer-Oakes, Oye and Leake<sup>4</sup> found that age alone did not necessarily mean a higher death rate. Functional status was the important variable, and they concluded that among patients without functional limitations, the oldest group was no more likely to die than the youngest group.

Although many reports have demonstrated a significant increase in surgical risk with advancing age, many others have not. Great advances have already been made in the surgical outcome in geriatric patients. For example, the perioperative death rate for patients 90 years of age and older has decreased from 29% in the 1960s to as low as 1.6% in the 1980s.<sup>5,6</sup> Although age, per se, influences the ultimate outcome as a result of the gradual decline in physiological reserve of organ function, the increased presence and severity of concomitant disease appears to have an even greater effect on perioperative morbidity and mortality.

Not only may the type of pre-morbid condition be important in determining outcome but so may be the number of associated diseases. Large observation studies have demonstrated dramatic rises in the perioperative death rate in older patients with multisystem disease.<sup>6-8</sup>

It seems wise to adequately prepare an elderly patient for elective surgery but unwise to defer surgery simply on the basis of age. An unnecessary delay may result in aggravation of the condition, necessitating an urgent or emergent procedure, which has been shown to increase the death rate by a factor of four.<sup>9</sup> It seems justified to offer elective major surgery to elderly patients to avoid facing emergency surgery when their condition ultimately deteriorates.<sup>10</sup>

Having determined that age alone is not necessarily a contraindication to major surgery, we must then address the ethical issues implied by the underlying disease processes that brought the "elderly" patient to our care. Bernstein believes that meaningful improvement in quality of life, not just quantity of life, is important. In fact we can no longer look just at survival curves, mortality and morbidity associated with our practice. We must consider the overall impact on the meaningful recovery of our patients.

\*Associate professor of neurosurgery, McGill University, Montreal, Que.

Correspondence and reprint requests to: Dr. Jean-Louis Caron, L7325, Montreal General Hospital, 1650 Cedar Ave., Montreal QC H3G 1A4

In his first case report, Bernstein describes a patient with a reasonable life expectancy and a benign, potentially curable disease that left untreated would lead to a slow decline in function and to misery. In my mind, there is no ethical doubt as to what should be offered this patient. In fact, the surgical outcome in this case was very favourable.

The issue of malignant diseases of the central nervous system is addressed in a similar way, but the goals of therapy are radically different. The issue is not cure but prolongation of meaningful life. As physicians we are obligated in the face of incurable, terminal disorders not only to prolong life but to make it as enjoyable and meaningful as possible. As Bernstein points out, we must integrate our scientific knowledge of the disease process with the human consequences of our interventions. The patient and family must become an integral part of the decision to treat, and their wishes and expectations must be respected.

In summary, Bernstein's brief reappraisal of brain tumour surgery in the

elderly raises important ethical issues regarding the care of these patients. We no longer can assume that being old is a contraindication to surgery and that simply prolonging life is a medical victory. The clinical health sciences are entering a new dimension of care where quality-of-life assessments will be as relevant as physiological measurements.

## References

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