

PREFACE

Quality of Life after Skull Base Surgery: The Patient's Predicament

Since the introduction of craniofacial resection as an important advance in surgical management of malignant tumors involving the anterior skull base nearly 50 years ago, the attention of investigators has focused on improvement of cure rates. Although the early experience dramatically improved survivorship of patients with advanced tumors of the paranasal sinuses involving the skull base, the subsequent decades have shown only modest improvement in overall survival. In a multicenter international collaborative study, an overall 5-year survivorship of 59% was observed. Despite numerous advances in surgical techniques, availability of newer technologies of imaging and instrumentation, and more sophisticated and formal surgical training, the survival rates have remained steady for the past 30 years. Clearly, therefore, the lack of improvement in outcomes is attributed to the biology of the disease and the diverse nature of pathological entities that occur in this anatomic location.

Because significant improvement in tumor control and overall survivorship is not achievable in the foreseeable future, attention has shifted to improvement in the quality of life of patients undergoing major cranial base surgery. The major domains impacting upon the quality of life of these patients are functional status, physical and aesthetic appearance, cognitive symptoms and pain, social well-being, and emotional health. Several studies in the literature have shown that skull base surgery negatively impacts upon the quality of life of the patient for the first 6 months following surgery with or without postoperative radiotherapy, but improves by 12 months and thereafter remains stable. Nevertheless, the overall quality of life remains lower in several domains compared with the preoperative status in many patients. Unfortunately, site-specific instruments for measuring the quality of life of patients undergoing multidisciplinary treatment for malignant tumors involving the skull base have not been fully validated yet. Although the well-established instruments for measurement of quality of life for head and neck cancers have been employed by some, they do lack specificity, particularly with reference to the histology, the site and

extent of resection, and the methods of reconstruction as well as the employment of postoperative radiation therapy. Thus, there is a clear need to develop a site-specific instrument for patients undergoing cranial base surgery, which has to be validated by field-testing on a large cohort of patients from multiple centers. Such an instrument can also be employed longitudinally over a period of time during the life of the patient. Similarly, the reporting of observations on such an instrument is best obtained from patients directly as there has been criticism of physician- and/or caregiver-generated data in previous studies. To that end, development of an Internet-based quality of life questionnaire, which can be administered directly to the patient in the privacy and comfort of home environment, is a valuable tool. Such a methodology will allow gathering of data from large numbers of patients from various parts of the world in a short period of time. It would also be applicable longitudinally during the patient's life, and thus could be repeated at different time frames.

In an attempt to reduce morbidity and improve quality of life, endonasal skull base surgery is becoming increasingly popular. However, only select patients are suitable for such approaches. It certainly offers reduced esthetic and physical debility compared with conventional craniofacial surgery. Obviously, avoidance of incisions on the face is a positive factor. However, the morbidity and sequelae of extensive endonasal surgery are different and may impact upon functional impairment, which is a different domain in measuring quality of life. Clearly, more work needs to be done on that frontier. Early observations indicate that the altered nasal function following endonasal surgery is a transient factor impacting upon quality of life, which improves over a 12-month period. However, prospective longitudinal studies of quality of life on patients undergoing endonasal skull base surgery are desperately needed. In addition, oncologic effectiveness and local tumor control must remain similar to open approaches. At the moment, such data are accumulating at several centers.

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Looking at all of the above, we are in desperate need for developing a universally applicable, site-specific instrument for measurement of quality of life in patients undergoing multidisciplinary treatment of malignant tumors involving the skull base. Such an instrument should be easy enough for patients to understand interpret and respond to via the Internet. The implementation of an Internet-based data-transmitting program will greatly facilitate gathering of information directly from the patient and from all parts of the world to establish new standards of care and new measures of outcomes of

quality of life. Perhaps participation by several national skull base societies under the aegis of the World Federation of Skull Base Societies would be an appropriate forum to develop and implement these two high priority items. This issue of *Skull Base* brings to our attention the current information on quality of life for patients undergoing skull base surgery.

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