

HEAD AND NECK CANCERS

There has been a tremendous amount of interest in radiosurgery technology in Italy. Recently, a symposium sponsored by the President of Italy was held in the historic and beautiful city of Florence to review treatment options for those patients with cancer of the glottis or voice box.

Historically in Italy many if not most patients have had surgical removal of the voice box. This results in a great alteration in quality of life. There are new technologies in the treatment of voice box laryngeal cancers in an attempt to avoid surgical intervention. These treatments center on radiation and chemotherapy.

I was invited to present our data using stereotactic fractionated radiosurgery for cancers of the head and neck area. While many patients have successful treatment done primarily without other surgery and/or radiation, there are many patients who have recurrence of their disease.

Standard radiation cannot be repeated in the same area without undue toxicity. Surgery is not easy especially after prior surgery and radiation. Chemotherapy is unlikely to have long-term durable effects in patients with recurrent head and neck cancers.

Thus, there has been a great need for new treatment strategies for head and neck cancers. Our group has put together a program for more than a decade using fractionated radiosurgery. The idea is to create a non-invasive external frame of reference and utilize sophisticated computer technology to direct beams of radiation to the target in an attempt to minimize radiation to the healthy sites. Of course, the immediate surrounding tissues do get some radiation but the volume in its prescribed dose is markedly reduced. By using this technology, we are also able to alter the radiation dose schema. For years, radiobiologists have studied the slope of the curve on dose versus effect for these and other tumors.

In general, higher dose and fewer numbers have a greater result of tumor control. That is, indeed, the idea behind fractionated stereotactic radiosurgery. Instead of a prolonged six-week course of daily radiation, radiosurgery usually consists of five treatments to the prescribed cancer. We have had a number of patients and they are followed on a regular basis. This data was first presented in its full form in October in Tuscany at the Italian cancer meetings.

Between October 1993 and December 2002 127 patients with 150 tumors were treated. Their ages ranged from 28 to 103 years with a mean of 61 years. Tumor volume ranged from 0.1 to 497.4cc (cubic centimeters) or a median of 27.6cc. One-hundred-one patients with 114 tumors were radiographically evaluated post-treatment by contrast-enhanced CT scan or MRI. Control is defined as cessation of growth, shrinkage or disappearance of the tumor in the treated field.

Overall, 84% of cancers were controlled with 8% disappeared, 24% decreased, 52% showing cessation of growth and 16% increased. For patients treated for nasopharyngeal cancer, the control rate was 80%. For glomus cancers, all tumors were controlled. For paranasal sinus cancers, the control rate was 92% and salivary gland cancer was 92% controlled.

The median survival for the 127 patients was 19.2 months, with 78% at six months. For the larger subgroups, the median survival was 20.4 months for nasopharyngeal, 19.3 months for paranasal sinus and 31.5 months for salivary gland carcinoma.

Thus, it is easy to see the appeal of fractionated stereotactic radiosurgery for head and neck cancers. In general, treatment can be safely delivered with high control rates. The treatment is completed quite rapidly. Often we are able to treat sites that have undergone radiation, surgery and chemotherapy. In fact, most patients reported on in Italy were heavily pre-treated. That should offer hope for people who unfortunately have been diagnosed with recurrent head and neck cancers. It is best to speak about treatment options with each patient as location and other factors dictate the most beneficial method of therapy.

Also presented in Italy were examples about our work on head and neck cancers that have spread to the brain or to other parts of the body, especially the lungs. In these instances, radiosurgery continues to have high control rates allowing the patient the option of avoiding surgery or chemotherapy.

Again, every patient is unique and for us it is best to see the scans, reports and details of the case before proceeding. Having presented our head and neck cancer data in Italy was a great honor. I am hopeful that our strong relationship with this society will continue in the years to come.