

## BODY RADIOSURGERY RESULTS

Data presented by Blomgren and Lax from the Karolinska Hospital in Stockholm is persuasive that body radiosurgery is feasible and highly effective in treating targeted lesions - both for primary malignancies as well as metastases.

All patients treated were felt to be either inoperable or not suitable for standard radiation. More than 100 tumors were treated including primary tumors and metastases to the lung, liver, abdominal, mediastinal and other sites. Spinal tumors as well were treated.

Of 73 metastases treated, the control rate was 94.5%. Tumor volume treated ranged from 2 cubic centimeters (cc) to 732 cc. The dose ranged from 15 Gray (Gy) to 45 Gy with a mean of 28 Gy. Gray is a unit measuring radiation delivered to the patient. Patients had from one to five treatments in total. The follow-up ranged up to 38 months, with a mean of 10 months.

Additional data included 11 patients ranging in age from 24 to 90 years with 19 primary liver tumors. These included 9 hepatocellular carcinomas, 1 bile duct carcinoma, 1 embryonal carcinoma. Size ranged from 3 to 622 cc. There were no local failures. The tumors ceased growing in five, shrunk in 12 and were totally resolved in two. This data is highly suggestive of effective control. Control of malignant tumors is considered cessation of growth, shrinkage or disappearance of the cancer.

Liver metastases were treated in 19 sites. Metastases means the cancers originated from other areas of the body and had spread to the liver. These included colon, anus, bladder, ovarian, carcinoid and other origins. Of the 19 tumors, there was one local failure resulting in a control rate of 94.7%. Of the remaining tumors, ten ceased growing, four shrunk and four were gone.

Also pulmonary or lung metastases were treated on 17 occasions. Tumor sizes ranged from 3 to 198 cc. and sites of tumor origin included the colon, germ cell tumors, thyroid, kidney and other areas. Local control rate was 94.1%. The only failure was a very large tumor which was retreated using body radiosurgery 25 months after recurrence - with success.

Other abdominal tumors included those in 14 patients with 18 tumors. Types of cancers included colon, germ cell, melanoma, ovarian, thyroid, pancreas and others. Size ranged from 7 to 732 cc. Again, in this situation the vast majority of tumors stopped growing, shrunk or disappeared. In fact, one-third of the tumors disappeared by follow-up scanning after fractionated stereotactic radiosurgery of the body.

There is a track record now using body radiosurgery. The first in the Western hemisphere to use body radiosurgery technology is the physicians at Radiosurgery New York where the staff and physicists have had a long experience with fractionated stereotactic radiosurgery of the brain and extra-cranial sites. Now this ultimate three-dimensional radiation technique is part of our armamentarium.