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CENTRUM ONKOLOGII
im. prof. F. Łukaszczyka
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Stereotactic Radiosurgery of Brain Metastases – Case study

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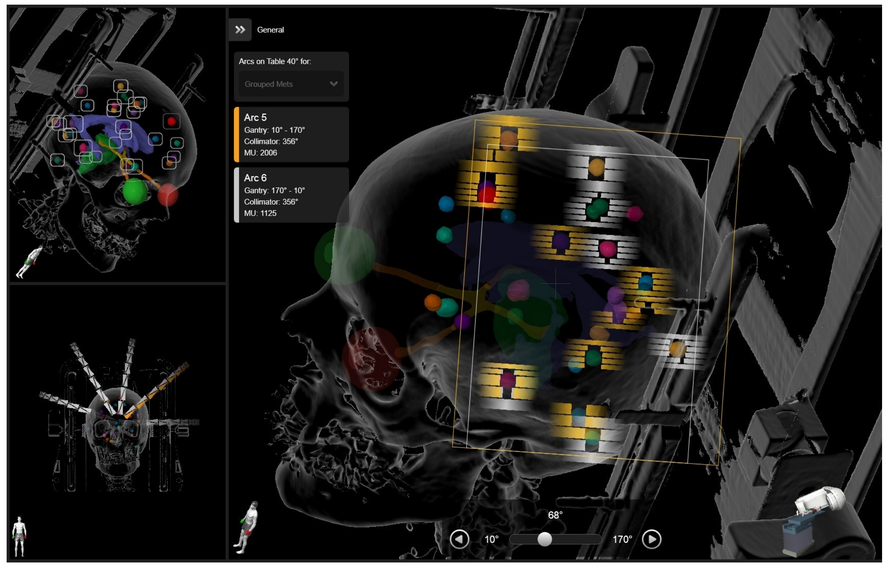
Purpose

We present the case of 72-year-old patient with primary non-small cell lung cancer and metastases to brain, treated with stereotactic radiosurgery of brain metastases at the Oncology Center in Bydgoszcz, Poland.

Materials and Methods

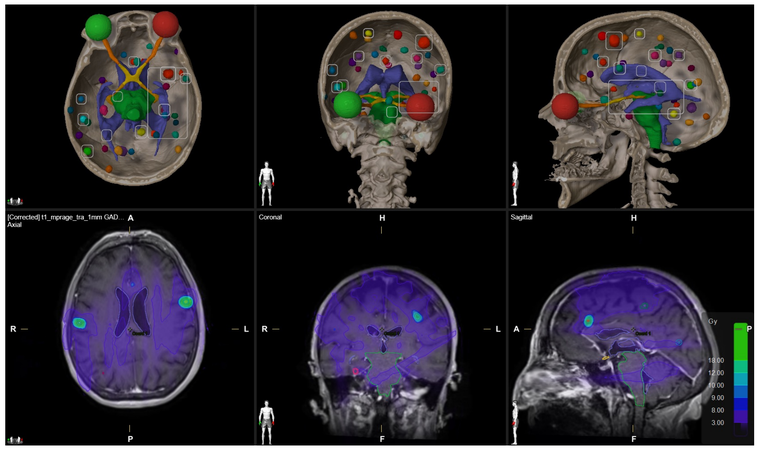
Stereotactic radiosurgery covered 28 metastases in October 2021 with a total volume of 5,32 cm3 . 27 of them received 18 Gy dose, while the last one received 16 Gy. In April 2022 after survey turned out she had another 11 brain metastases. 5 of them received 18 Gy dose, while the rest received 20 Gy. Stereotactic radiosurgery covered a total volume of 2,66 cm3.



Pic.1. Beam's Eye View from Elements Multiple Brain Mets SRS 3.0.0

Treatment plans were created using Elements Multiple Brain Mets SRS 3.0.0. Treatment was carried out on a TrueBeam v2.7 (VMS, Palo Alto, US) equipped with HD MLC and EPID aS1200 using 6MV photon beam. Patient positioning was performed with a ExacTrac v6.5 and successively with ExacTrac Dynamic v1.1.2. The dose verification was performed in the pre-treatment mode using both: the PortalDosimetry and point-dose measurements (PTW Semiftex ion-chamber) – the results were in accordance with the adopted guidelines.

Results



Pic.2. Selector View from Elements Multiple Brain Mets SRS 3.0.0.

Picture 2 shows all metastases from both SRS and dose distributions from second stereotactic radiosurgery.

Conclusion

The advantage of the SRS radiotherapy is obvious compared to the whole brain radiotherapy.