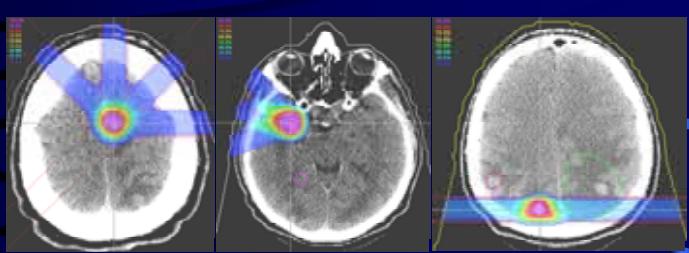


3D treatment plan samples used for proton conformal radiation therapy and radio surgery - E. Luchin

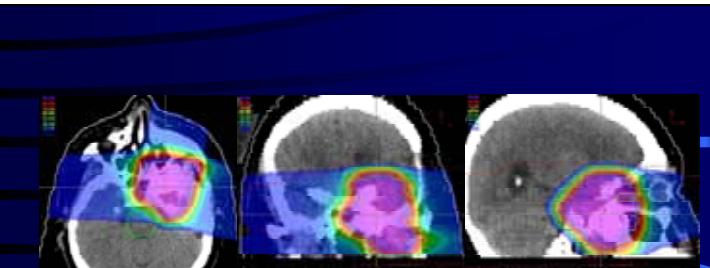
Three-dimentional treatment plan samples used for proton conformal radiation therapy and radiosurgery at the medical-technical center of LNP JINR

1



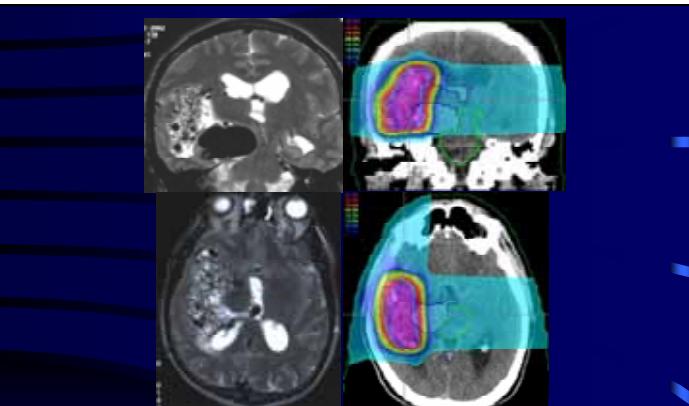
Proton radiosurgery plans for brain metastasis with various number of beams

2



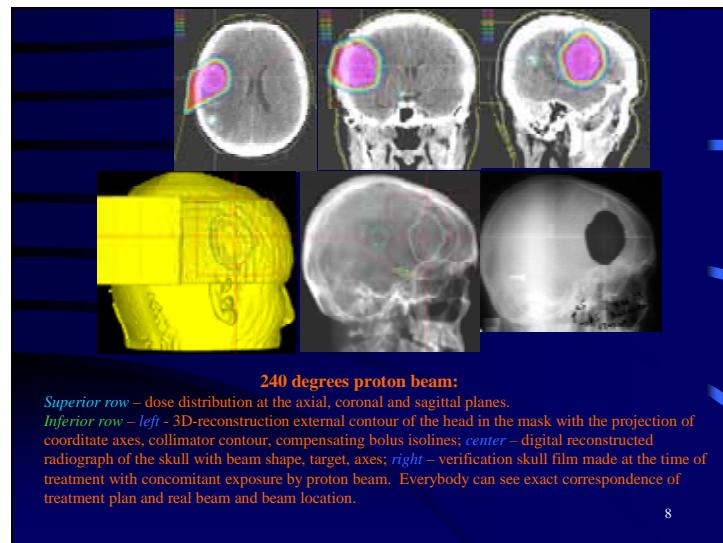
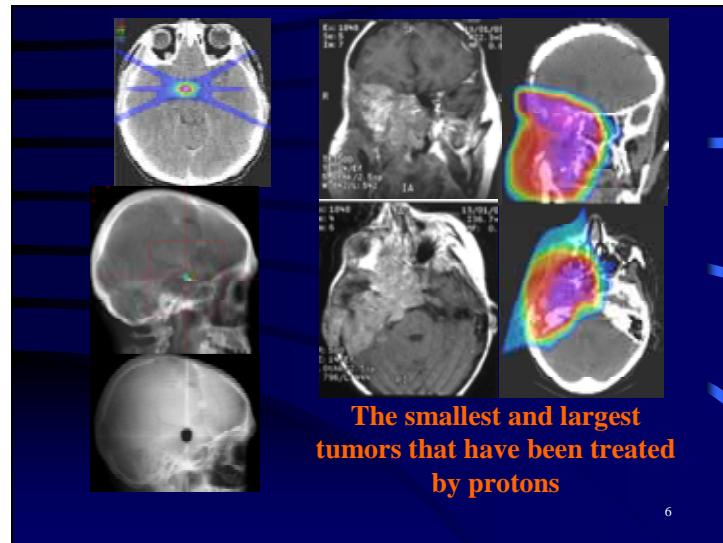
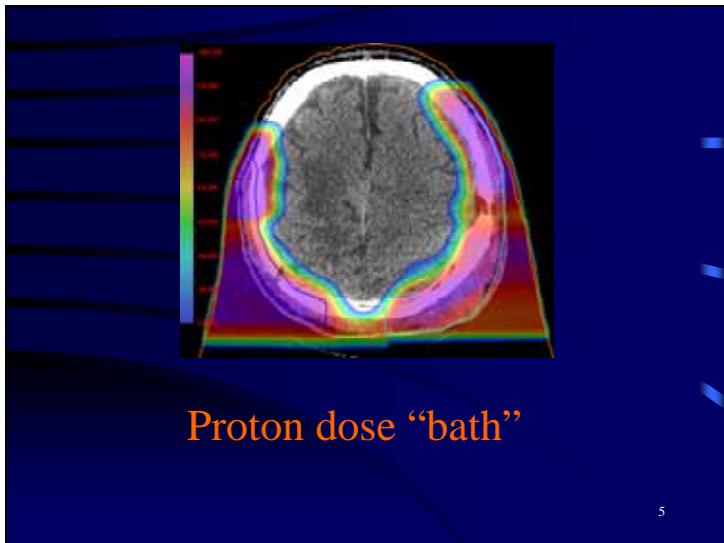
Conformal 3D-treatment plan of proton radiation therapy for giant (100 cm³) cranio-orbito-facial meningioma

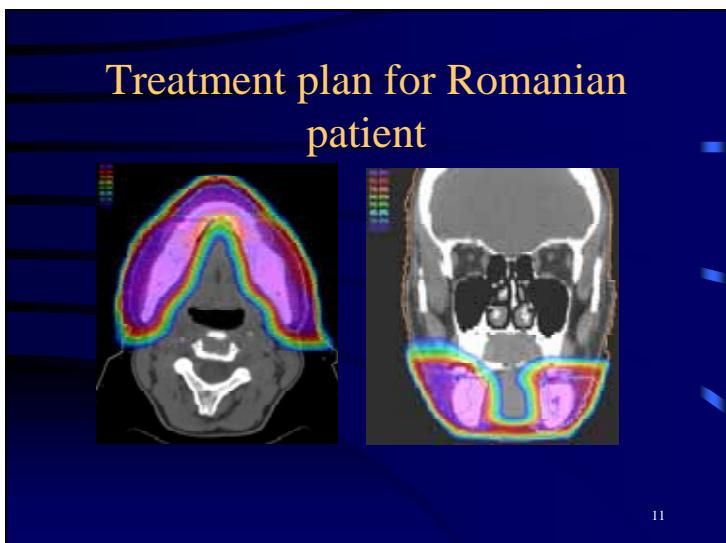
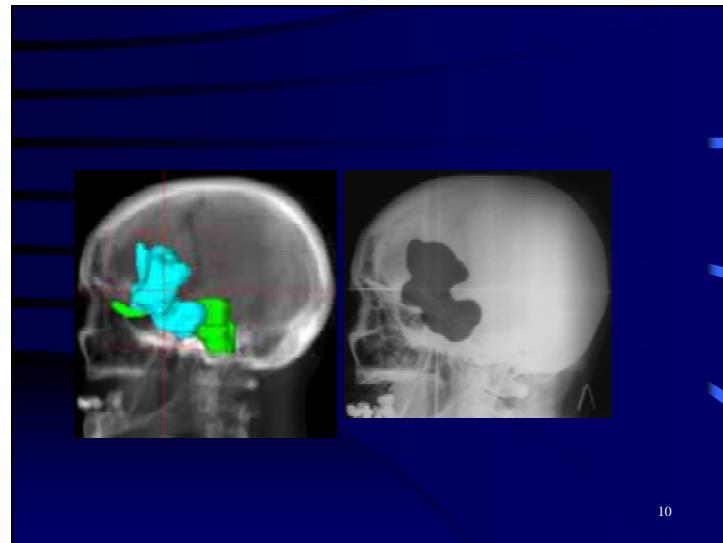
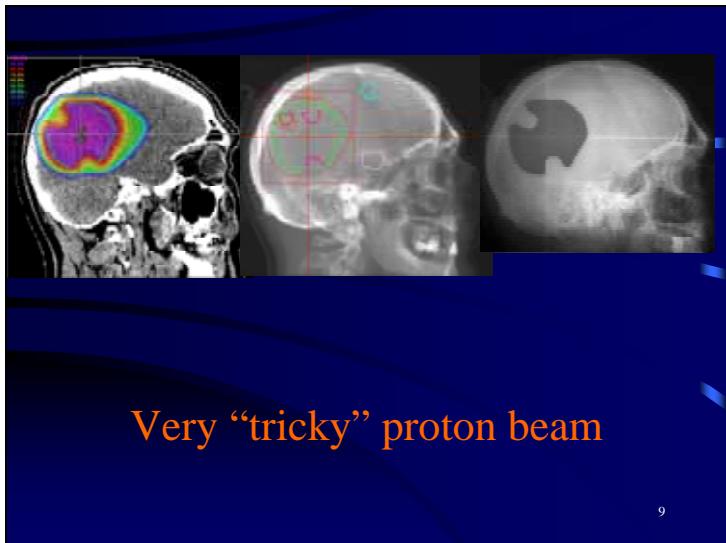
3



Three-dimentional proton radiosurgery treatment plan of large brain arteriovenous malformation. Correlation of different diagnostic images (MRI and CT) is presented

4



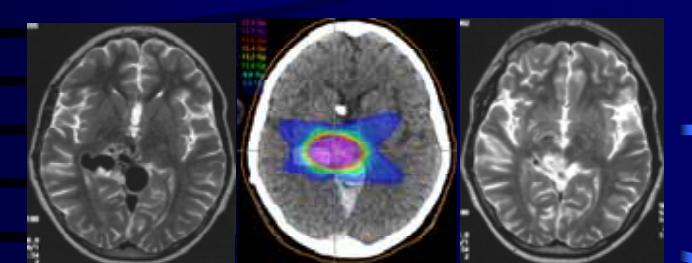


Some results of proton radiosurgery and conformal radiation therapy in Dubna

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Arteriovenous malformations of the brain

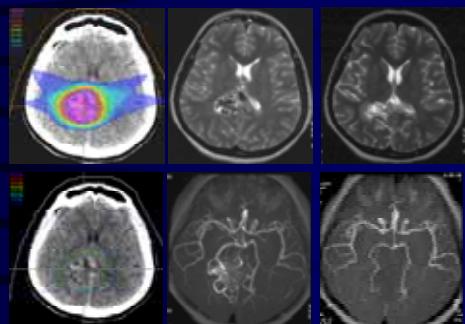
13



Proton radiosurgery of inoperable arterio-venous malformation. Patient is 12 y.o. boy.
Left – MRI before treatment;
Center – CT with treatment plan;

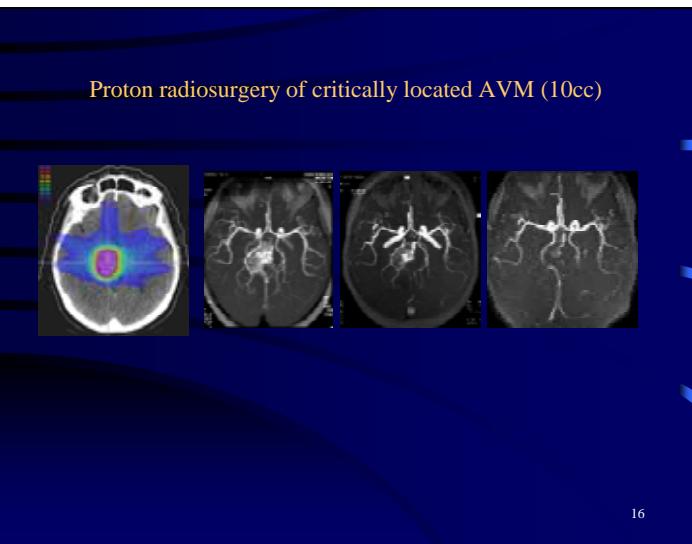
Right – MRI 2 years post treatment – almost complete disappearance of AVM.

14



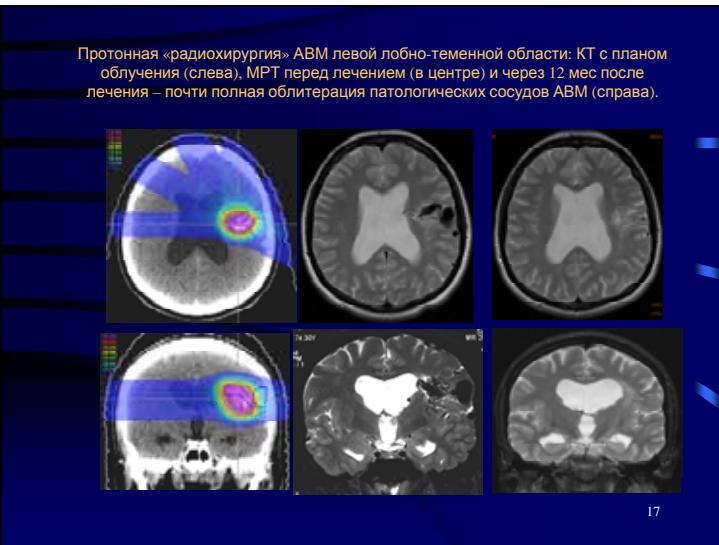
Complete obliteration of large AVM (29 cc)

15

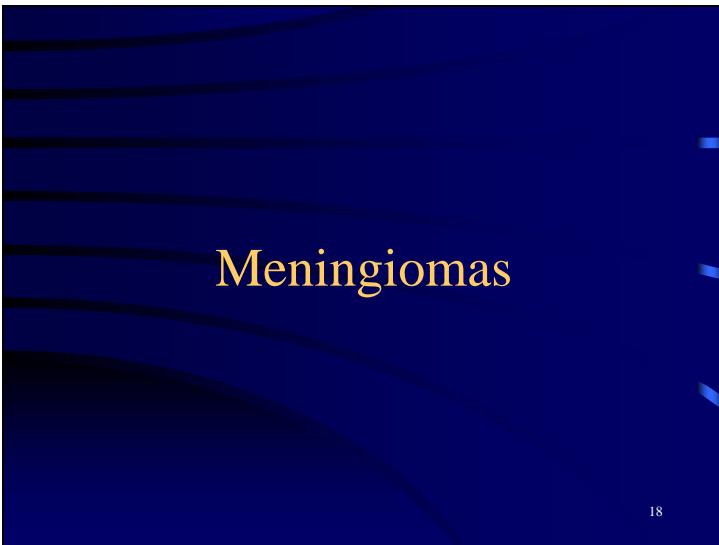


Proton radiosurgery of critically located AVM (10cc)

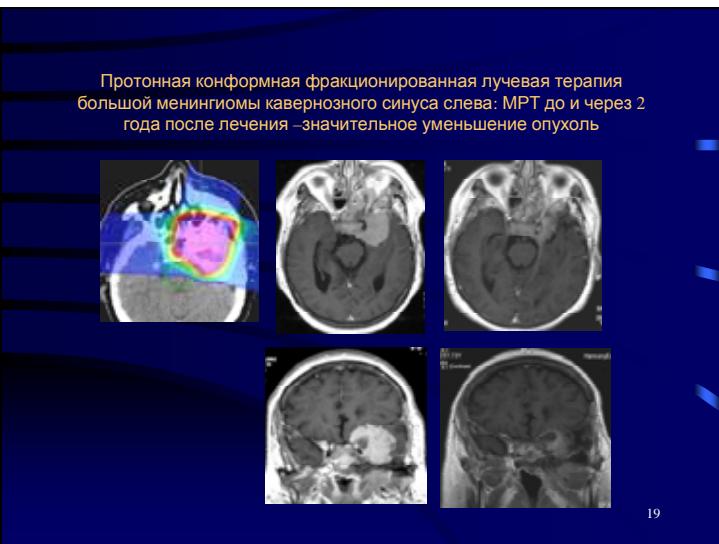
16



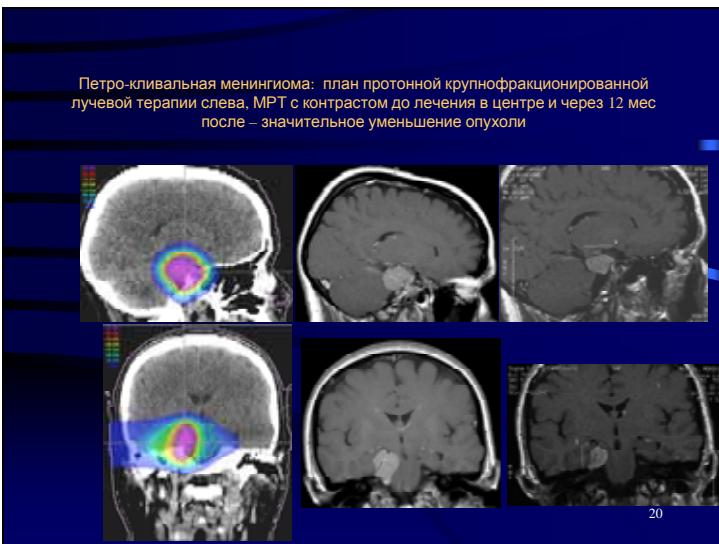
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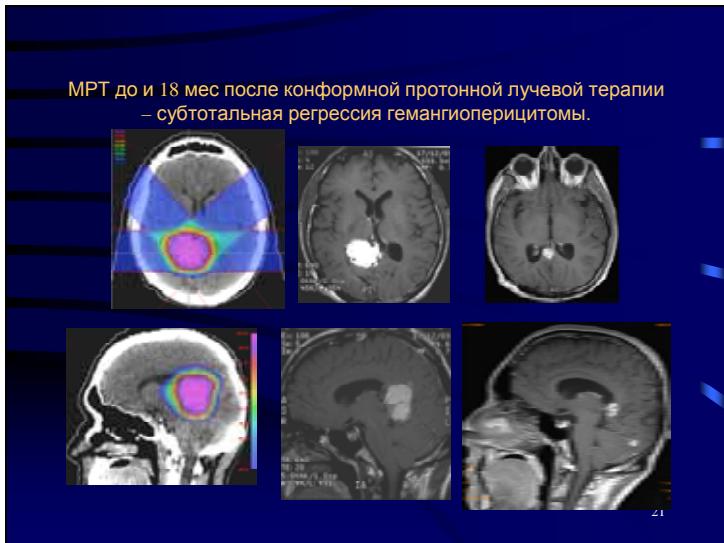
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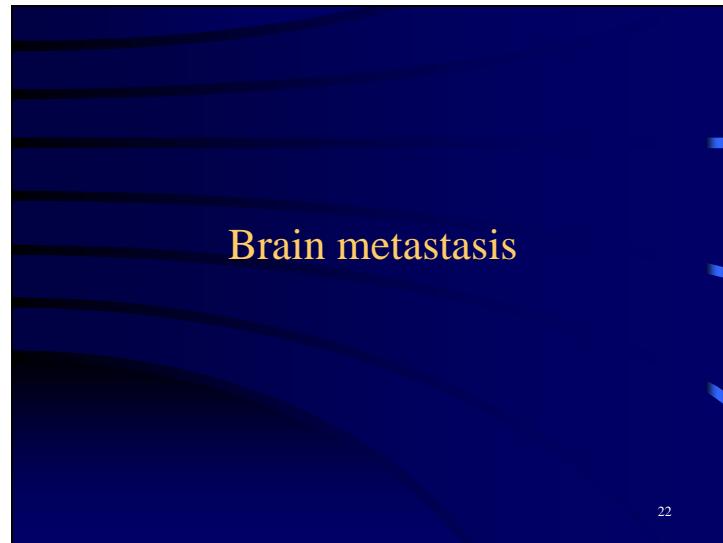
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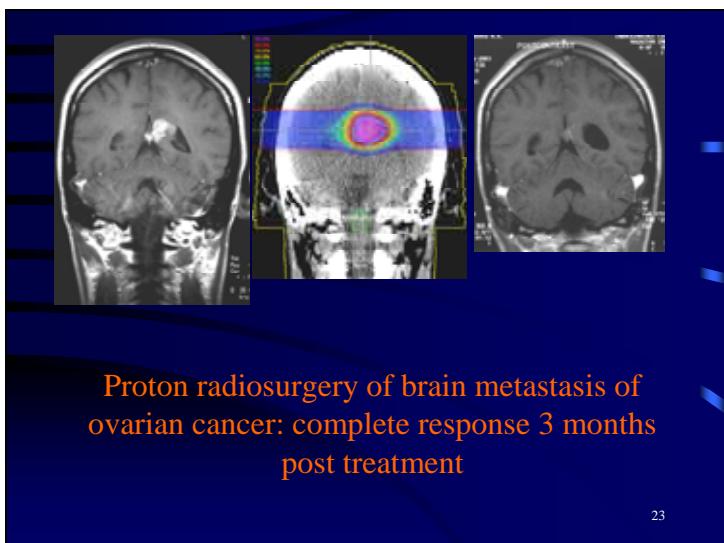
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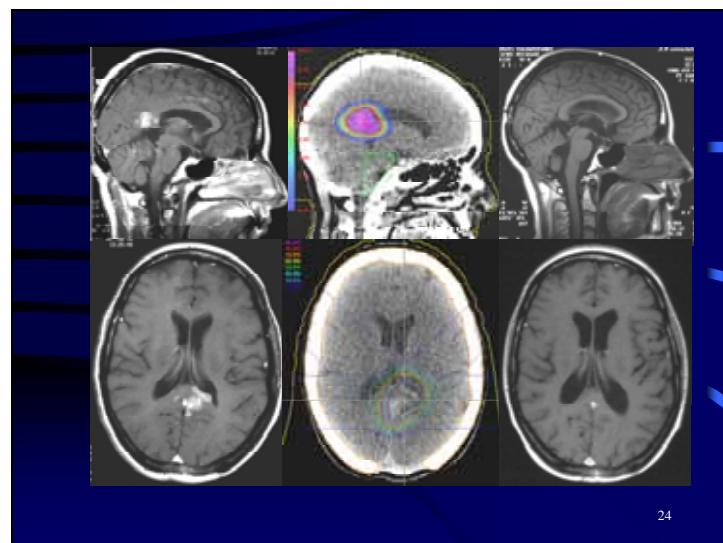
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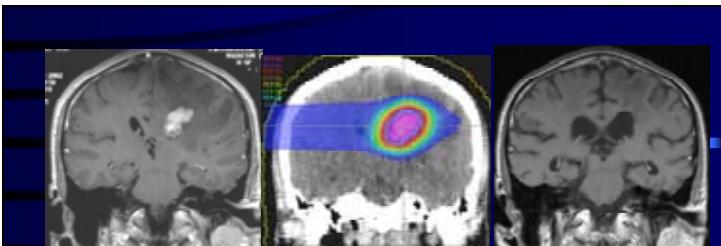
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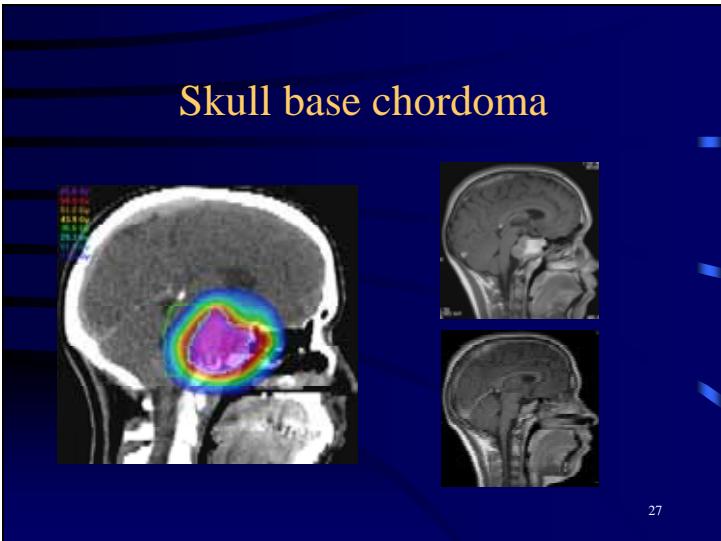


Proton radiosurgery of the renal-cell carcinoma metastasis to the brain: *left* – MRI before treatment; *center* – CT with proton treatment plan; *right* – 5 months post treatment, 90% reducing of the volume, edema disappeared, cerebral ventricle released from compression.

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Skull-base chordomas

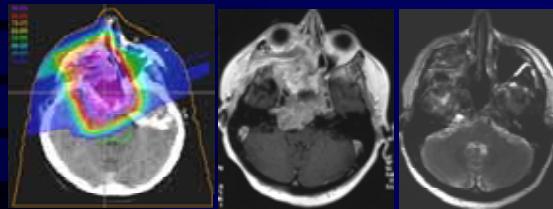
26



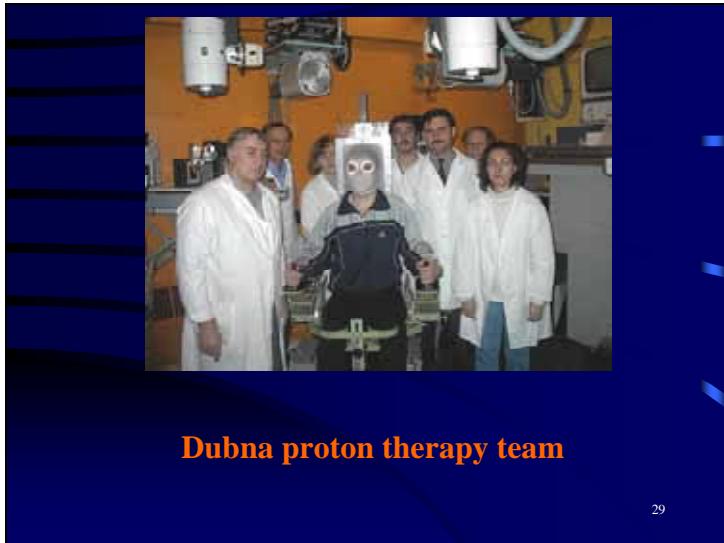
Skull base chordoma

27

Proton radiation therapy of skull-base chordoma – treatment plan, MRI before and 30 m post treatment – complete tumor regression



28



Dubna proton therapy team

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