

MR-Guided High Intensity Focused Ultrasound for the treatment of tremor-dominant Parkinson's disease – first experience

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Case report

patient (m,45),
with tremor-dominant idiopathic Parkinson's disease,

who showed contraindication to DBS due to bipolar disorder.

During interventions the target was visually focused by MR-image guidance.

In a first step, the correct focal location was verified with low, non-ablative energy, and targeted in the pallido-thalamic tract (*fasciculus thalamicus*).

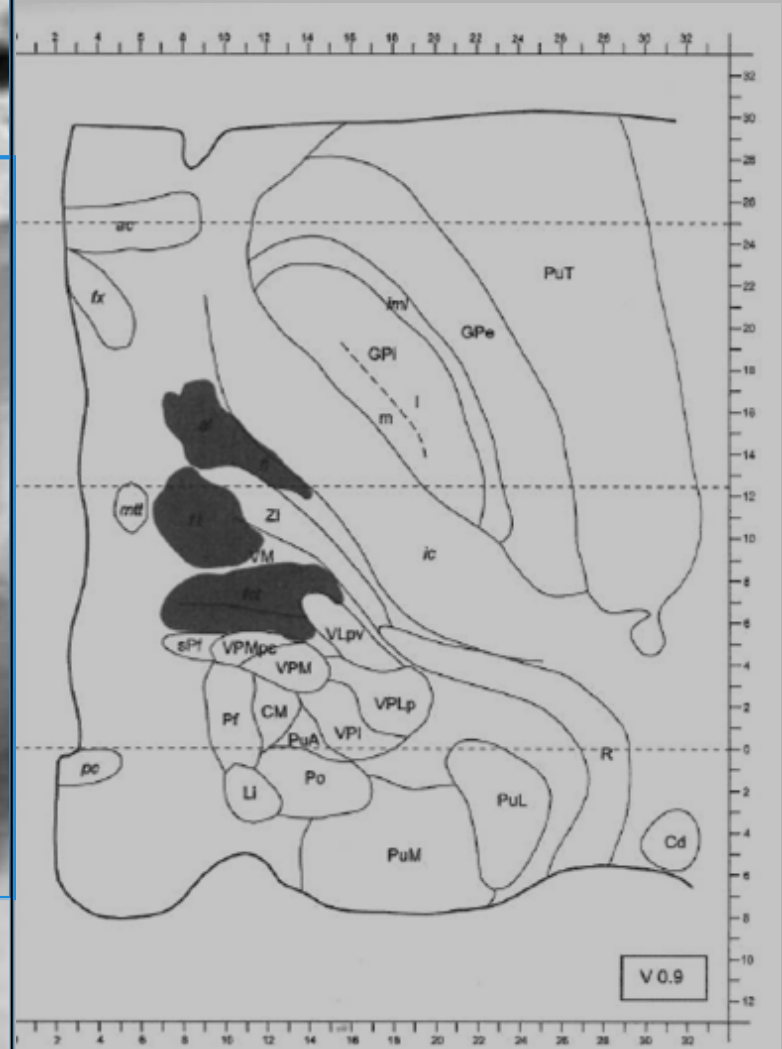
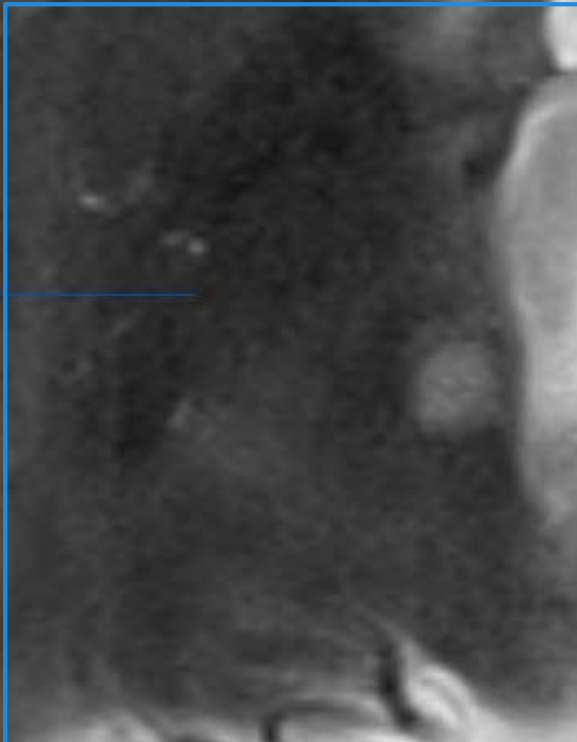
Continuous sonications lasting 15 to 25 seconds each were delivered with stepwise increased acoustic energy up to 13200 J to create thermocoagulations under realtime MR-thermometry.

The sonications resulted in heating to 60° C at the focal point producing a thermal lesion.



L

R



target:
fasciculus thalamicus

MC post 1 mm
 lat 8-9 mm
 inf 1-2 mm



Courtesy A. Morel

08

09

0a

0b

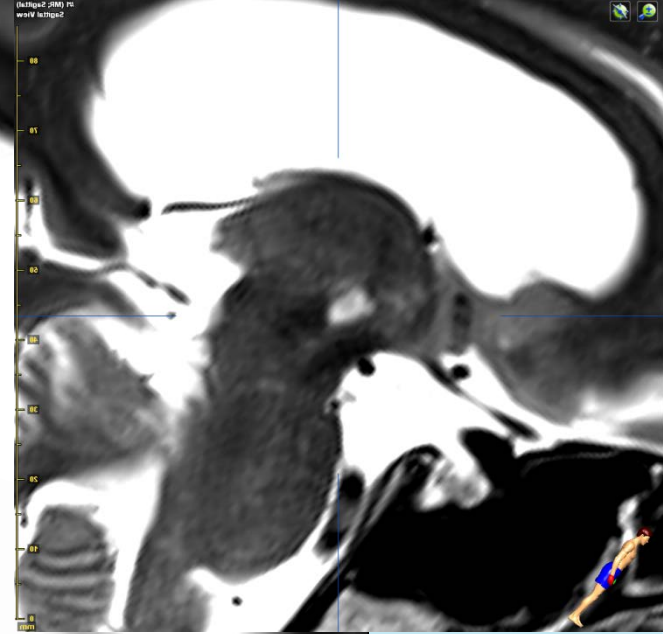
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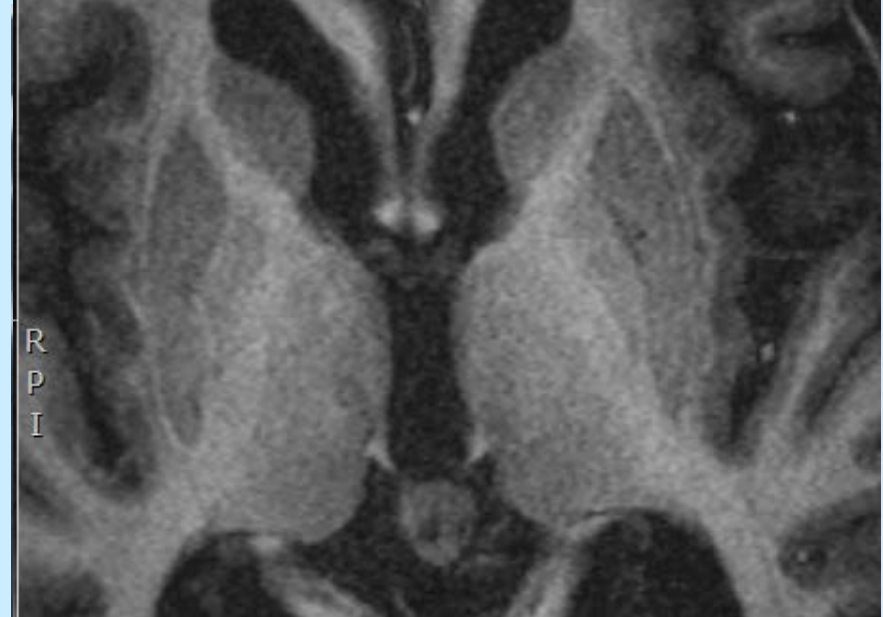
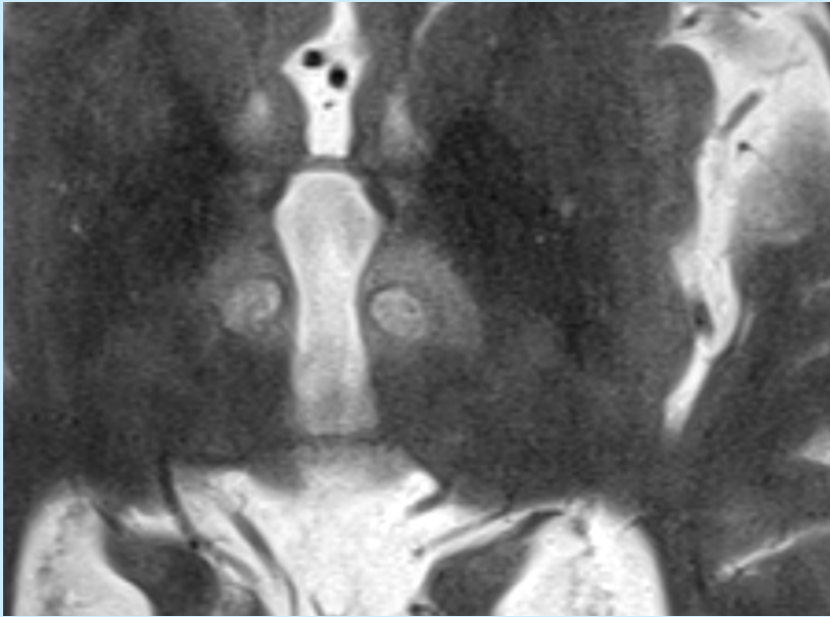
0f

0 mm



1 mo

Dynamic of lesion



48h

3 mo

