Brain-shift compensation using intraoperative ultrasound and constraint-based biomechanical simulation

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Highlights

- A constraint-based biomechanical simulation method is proposed to compensate for brain-shift.
- Intraoperatively, a single ultrasound acquisition is used to account for the vessels and cortical deformations.
- Quantitative validation over synthetic data and

  ve clinical cases is provided.
- Improvements over one of the closest existing methods are shown.
- This method is fully compatible with a surgical process.