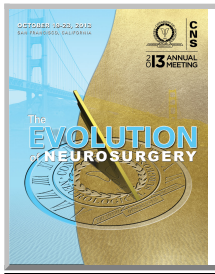
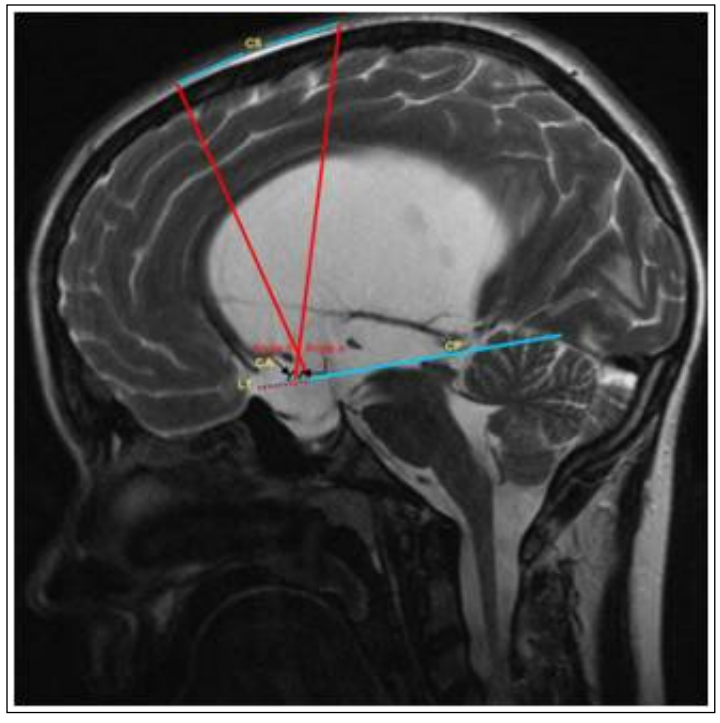


Transaqueductal Fenestration of the Lamina Terminalis Using a Flexible Endoscope

Sonja Vulcu MD; Kurt Becker; Hayk Bloutian; Joachim MK Oertel MD
Neurosurgical Department, Universitätsklinikum des Saarlandes, Homburg/Germany

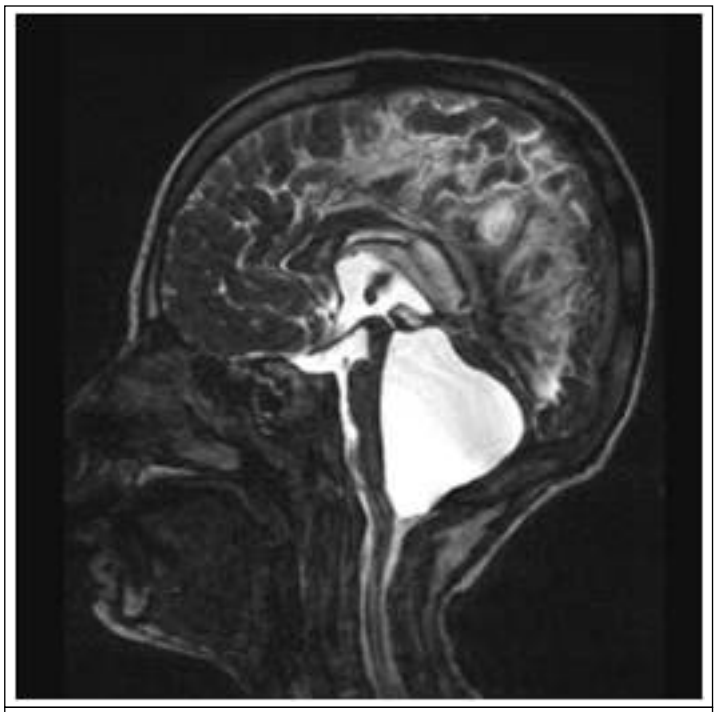
Introduction

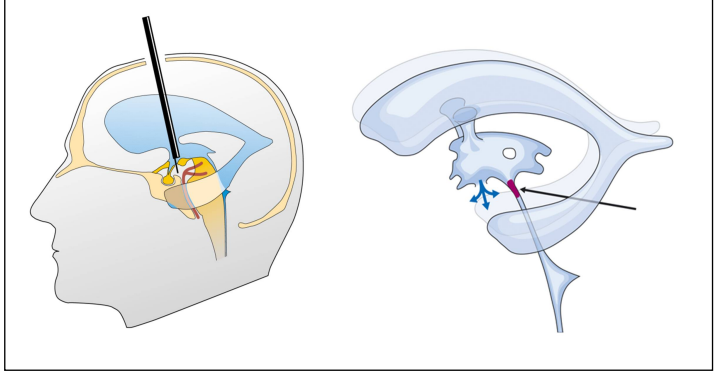
Recently, the authors presented the transventricular, transforaminal fenestration of the Lamina terminalis (LT) as an alternative to standard endoscopic third ventriculostomy (ETV). Fenestration was feasible with a flexible and a rigid endoscope but with the hazard of fornical contusion due to the steep angle to LT. To avoid contusion and provide a flatter angle, the authors now investigate the feasibility of LT fenestration using a flexible endoscope via a transaqueductal approach.



Methods

Ten cadaver specisms underwent LT fenestration with a small flexible endoscope (diameter 2.7 mm) through a suboccipital approach. After passing the fourth ventricle and the aqueduct, LT was fenestrated with the aid of grasping forceps and fogarty balloon catheter.





Results

Passage of the aqueduct and fenestration of LT succeeded in all cadavers with the flexible endoscope. No damage of the aqueduct or anatomical structures in the third ventricle occurred. Identification of anatomical landmarks in the third ventricle and even in the lateral ventricles after passing foramen of Monro was good possible.

Conclusions

The transaqueductal fenestration of LT with the flexible endoscope might present an alternative in cases where standard ETV is not feasible. However, handling of the instruments for fenestration is more difficult in a flexible system; additionally, the optical image quality is much worse, therefore, this procedure should be reserved for experienced hands. To gain more experience and to draw definite conclusions, clinical application in a patient series is necessary in future.

References

Endoscopic transventricular third ventriculostomy through the lamina terminalis. Oertel JM, Vulcu S, Schroeder HW, Konerding MA, Wagner W, Gaab MR.

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