

# Endoscopic Laser-Assisted Suprasellar Arachnoid Cyst Resection

Sebastian Eibach, M.D., FEBNS  
Christian Hagemann, M.D.  
Philip Kunkel, M.D.

Paediatric Neurosurgery, Altona Children's Hospital  
Hamburg, Germany

no conflict of interest

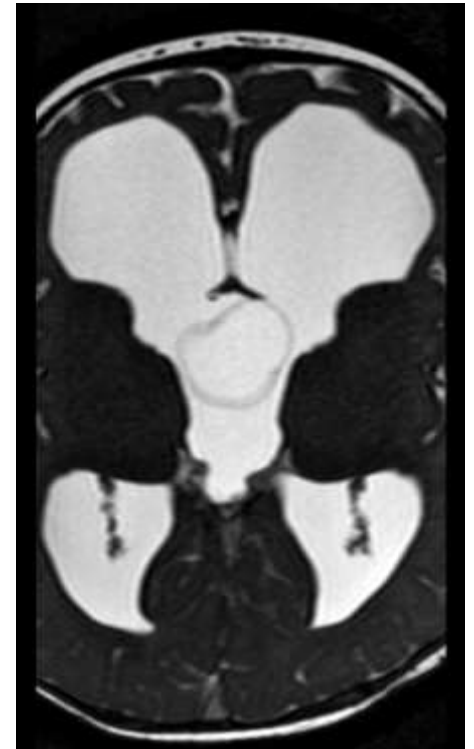
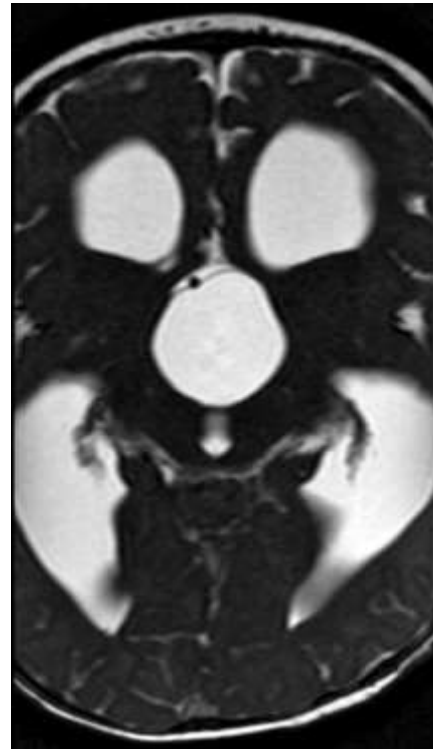
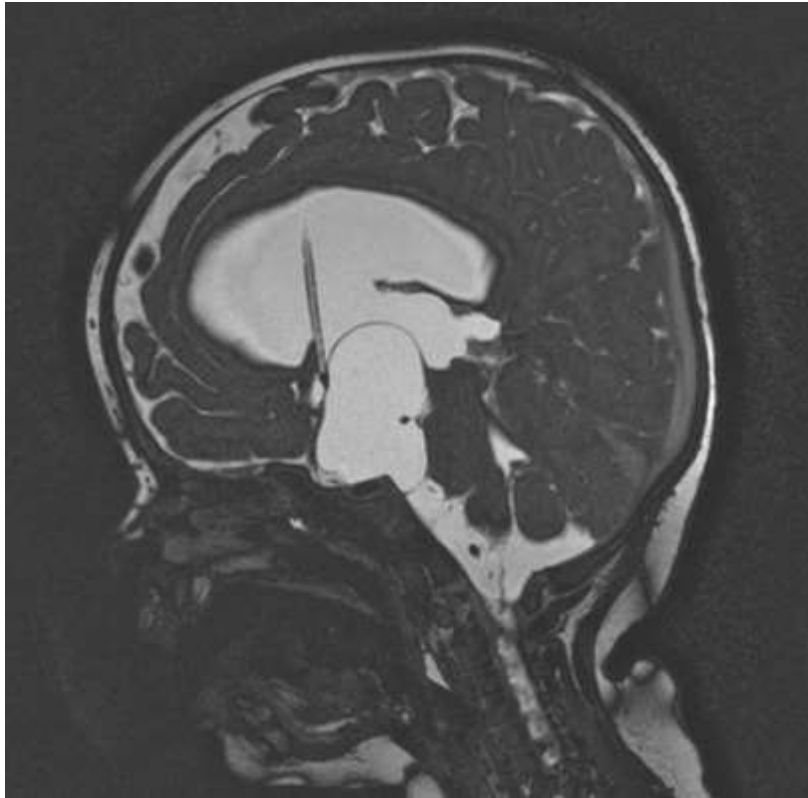
- Suprasellar Arachnoid Cysts quite rare and difficult to treat
- Presentation usually with Occlusive Hydrocephalus
- Gold Standard among different Techniques:  
Endoscopic Ventriculocystocisternostomy
- Low Perioperative Morbidity

- Single Centre Review 10/2014 - 10/2017
- 5 Patients
- w/ Symptomatic Suprasellar Arachnoid Cysts
- Endoscopic Ventriculocystocisternostomy
- Concomitant Laser Assisted Coagulation and Shrinkage of Cyst Wall
- Analyzed:
  - Age & Sex
  - Presenting Symptom + Presence of Hydrocephalus
  - Shunt Dependency
  - Comparison pre- and post operative imaging
  - Complications & Outcome

- **Thulium Laser** (RevoLix jr.; LISA Laser Products)
- Continuous Wave Diode Pumped Solid State [DPSS]
- Wavelength: 2.0 micron
- Power to Tissue: 1-15 W
- Chopped Mode: 50 - 1000 ms
- Repetition Rate: .5 - 10 Hz
- Effect in aqueous medium: < 2 mm
- Tissue Penetration: 500  $\mu\text{m}$

- Age 15 days - 11 years
- Presentation:
  - Decompensated Hydrocephalus n=3
  - Precocious Puberty n=1
  - Prenatal Diagnosis n=1
- 4/5 Preoperative Hydrocephalus
- 3/5 Previous Shunt
- no additional Postoperative Shunt Dependency
- no Operative Complications
- mean Follow Up 1.5 years
- significant reduction of Cyst Volume, mean 75% (33-100%)

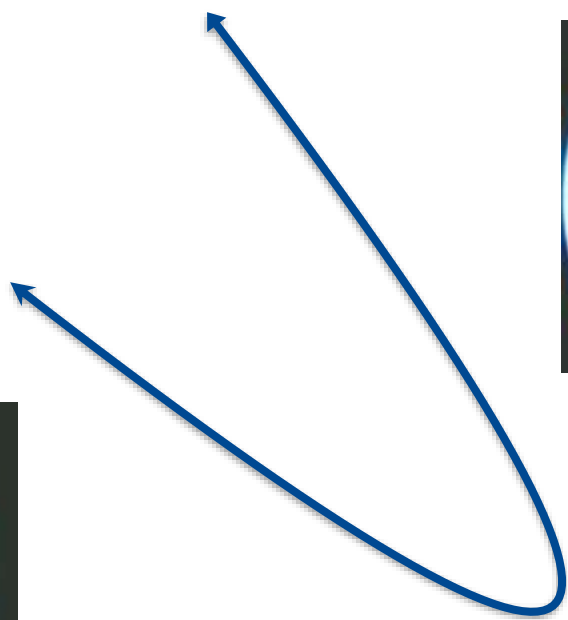
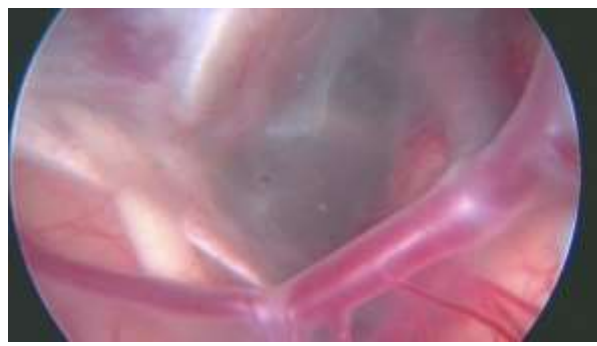
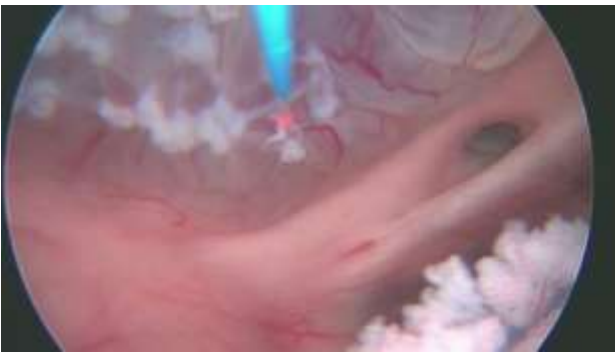
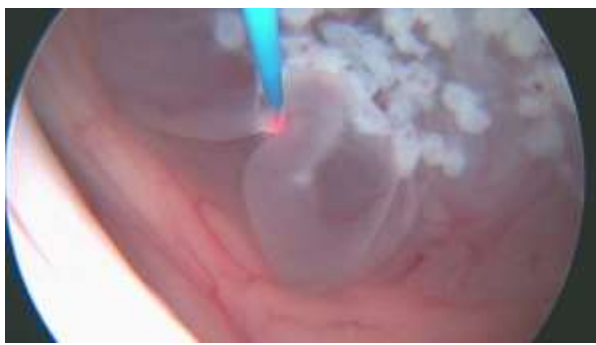
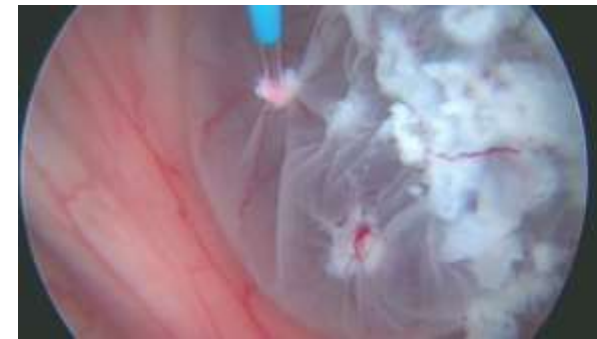
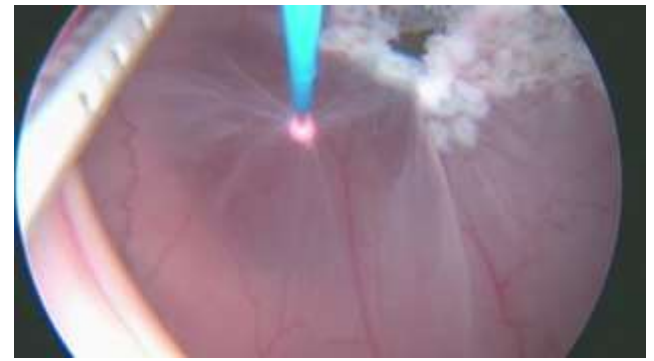
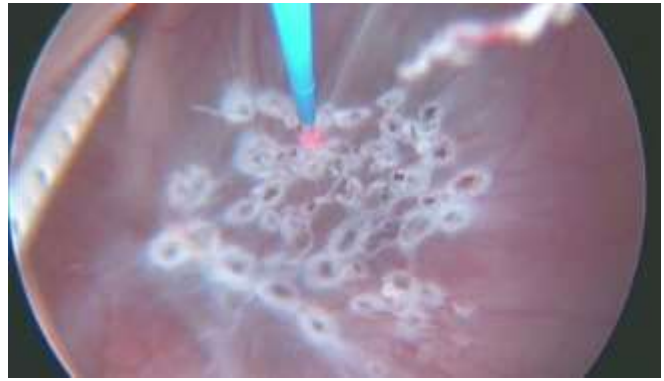
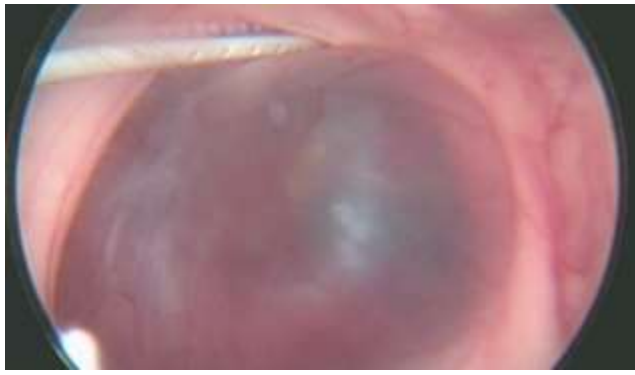
# pre operative MRI (sagittal + axial)



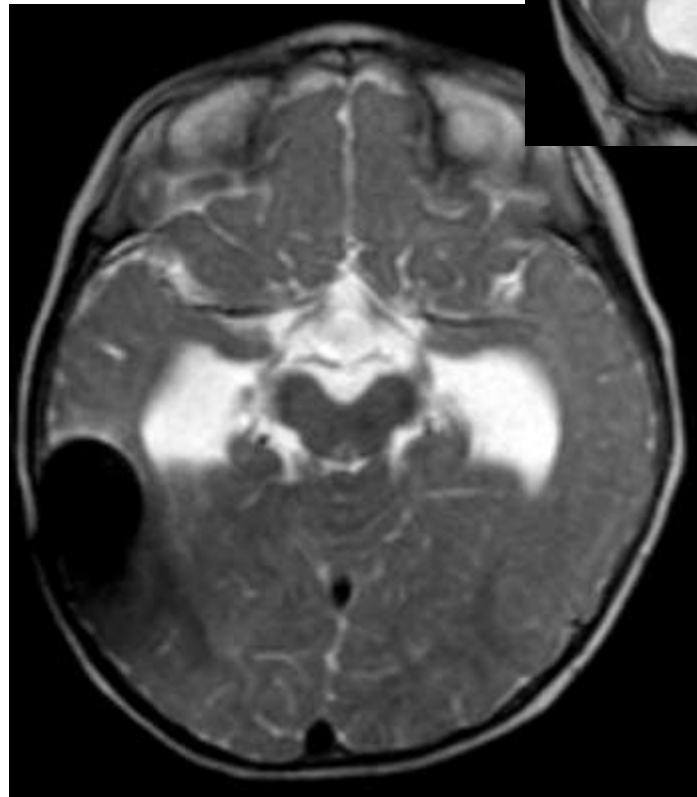
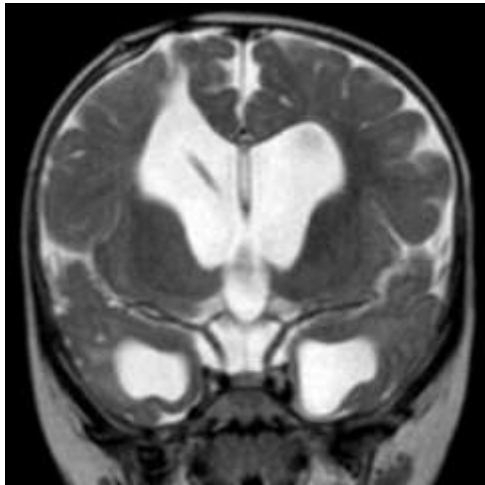
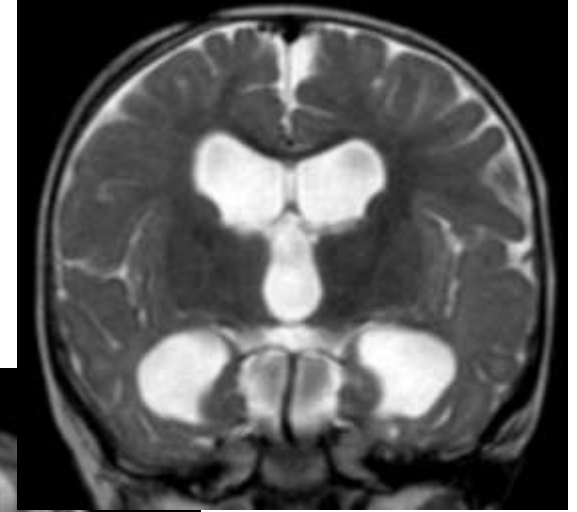
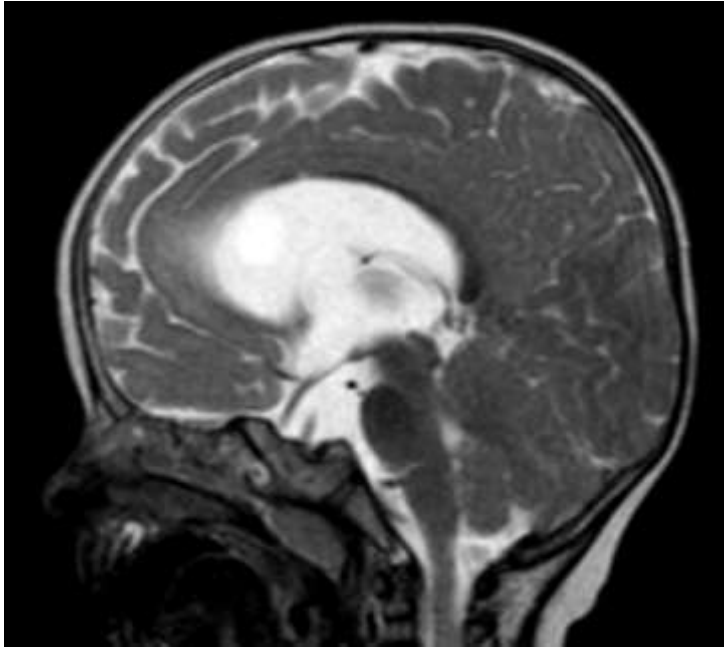
# coronal pre operative MRI







# 4 months post operative MRI



Endoscopic Ventriculocystocisternostomy  
w/ concomitant Laser Assisted Cyst Shrinkage

Safe and Successful Treatment Option for Suprasellar Cysts



**Thank You For Your Attention**

