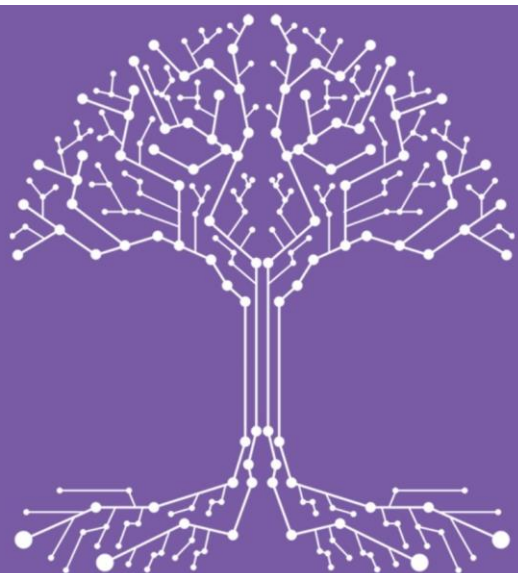




**ΝΕΥΡΟΕΝΔΟΣΚΟΠΙΑ ΚΑΙ ΕΞΩΣΚΟΠΙΑ  
ΣΤΗ ΝΕΥΡΟΧΕΙΡΟΥΡΓΙΚΗ. ΕΞΕΛΙΚΤΙΚΗ  
ΘΕΩΡΗΣΗ ΚΑΙ ΠΡΟΟΠΤΙΚΗ.**



**ΙΠΠΟΚΡΑΤΕΙΟ**  
ΓΕΝΙΚΟ ΝΟΣΟΚΟΜΕΙΟ  
ΘΕΣΣΑΛΟΝΙΚΗΣ



**Βασίλης Τσιτούρας**  
**Νευροχειρουργός, Επιμελητής Β΄**

**Β΄ Νευροχειρουργική Κλινική ΑΠΘ**  
**Ιπποκράτειο ΓΝ Θεσσαλονίκης**

**ARISTOTLE  
MEDICAL  
FORUM 2023**

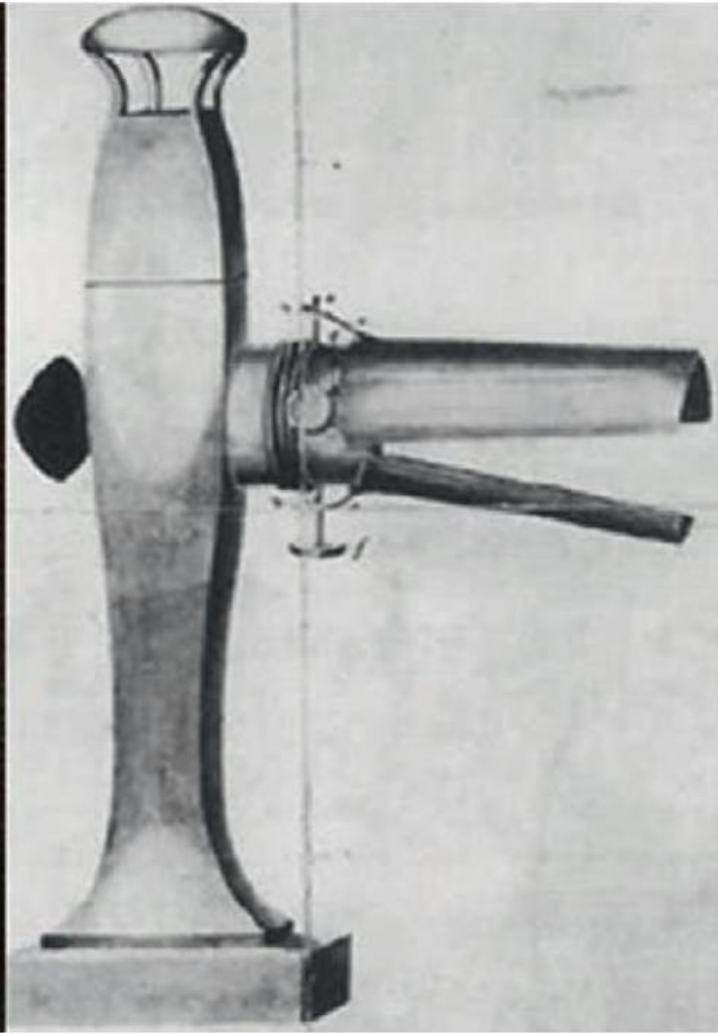
**2nd INTERNATIONAL  
CONFERENCE OF  
HELLENIC MEDICAL  
DIASPORA**

**6-8/10/2023**

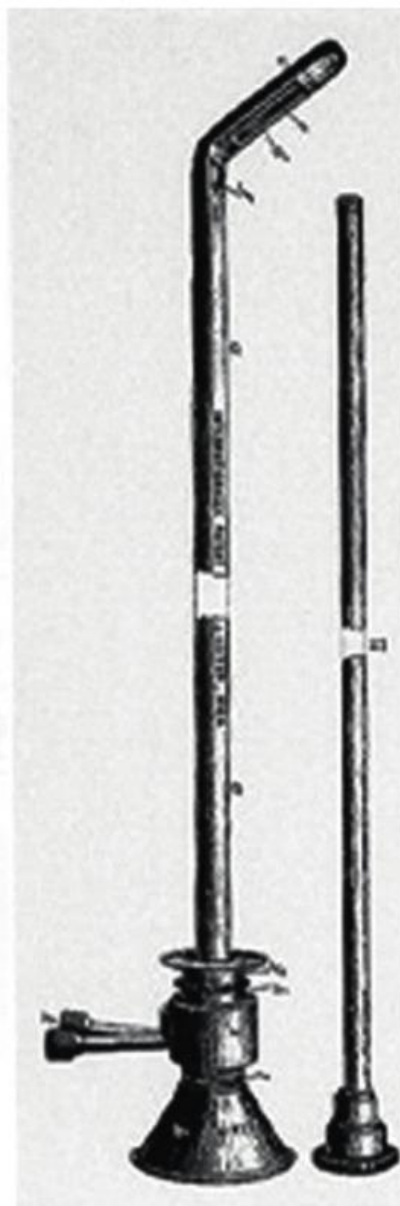
**THESSALONIKI  
CONCERT HALL  
BUILDING M2**

# neuroendoscopy

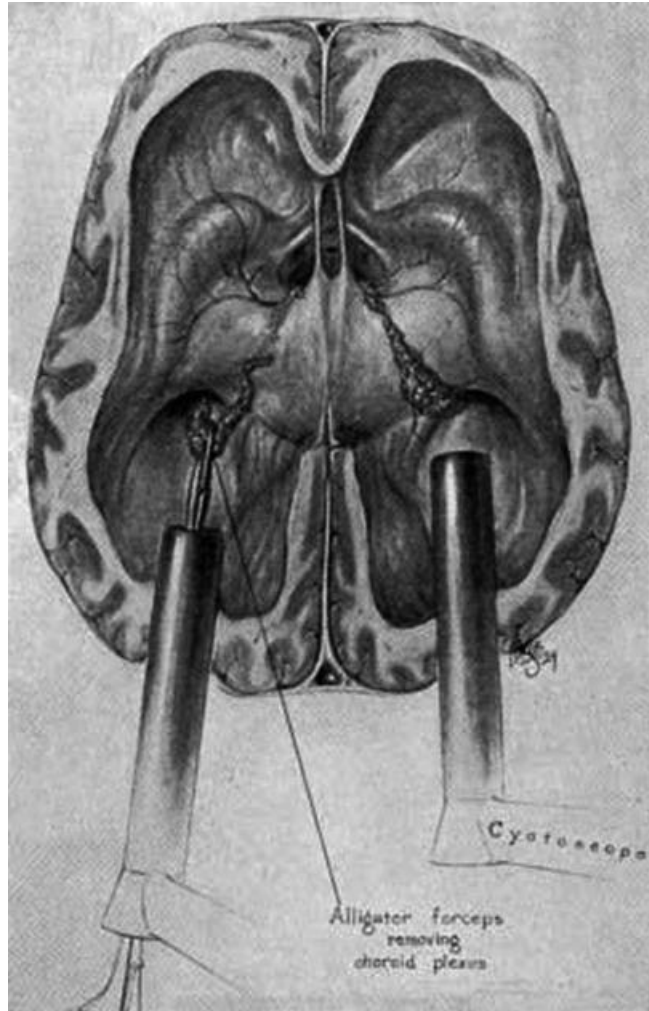




**Philip Bozzini's lichtleiter  
1806**



**Maximillian Carl-Fredrich Nitze  
1879**



**Victor Darwin  
Lespinasse  
1910**



**Fay & Grant 1923**



**William Jason Mixter  
1923**

**First ETV**

Jan. 24, 1961

J. W. HOLTER ET AL  
DEVICE FOR DRAINING VENTRICULAR FLUID  
IN CASES OF HYDROCEPHALUS  
Filed Oct. 2, 1958

2,969,066

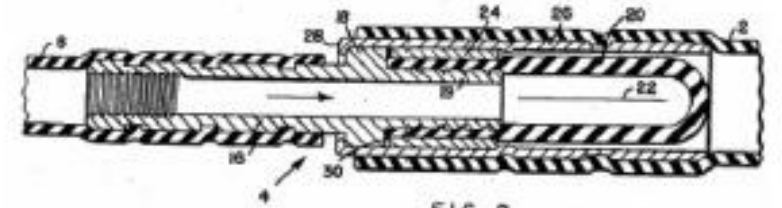


FIG. 2.

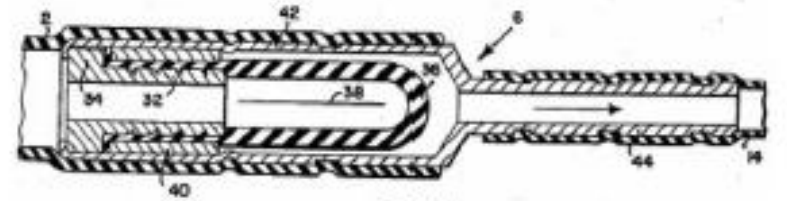


FIG. 3.

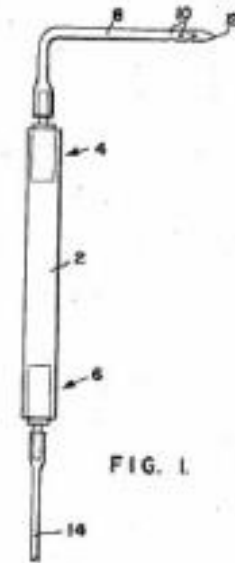


FIG. 1.

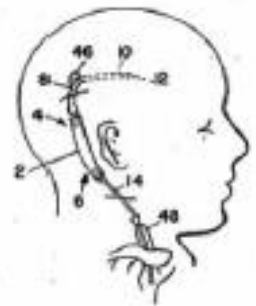
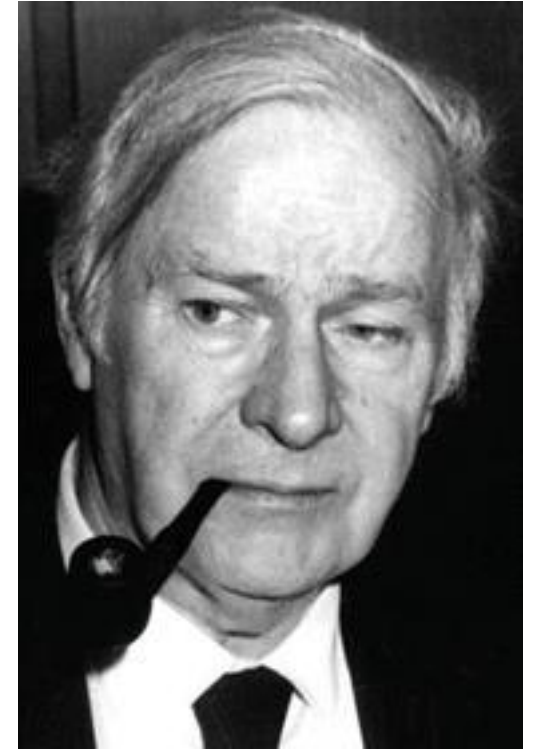
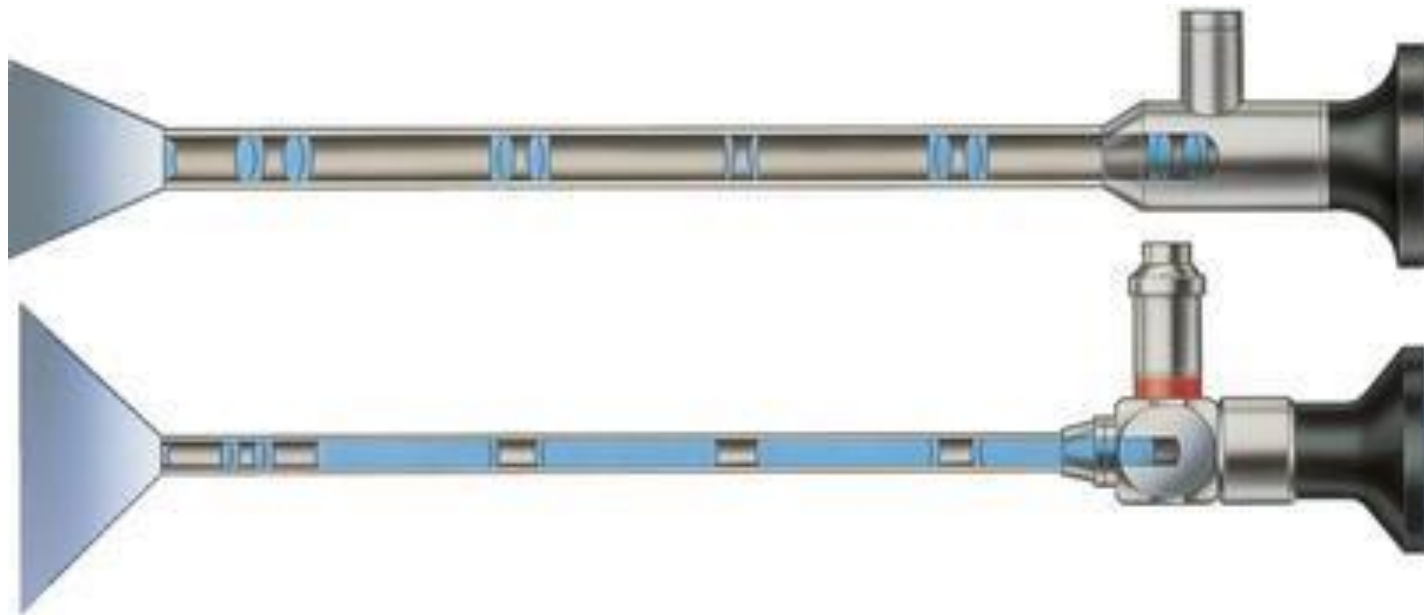


FIG. 4.

INVENTORS  
JOHN W. HOLTER &  
EUGENE BERNARD SPITZ  
BY  
*Baron, Smith & Hardy*  
ATTORNEYS

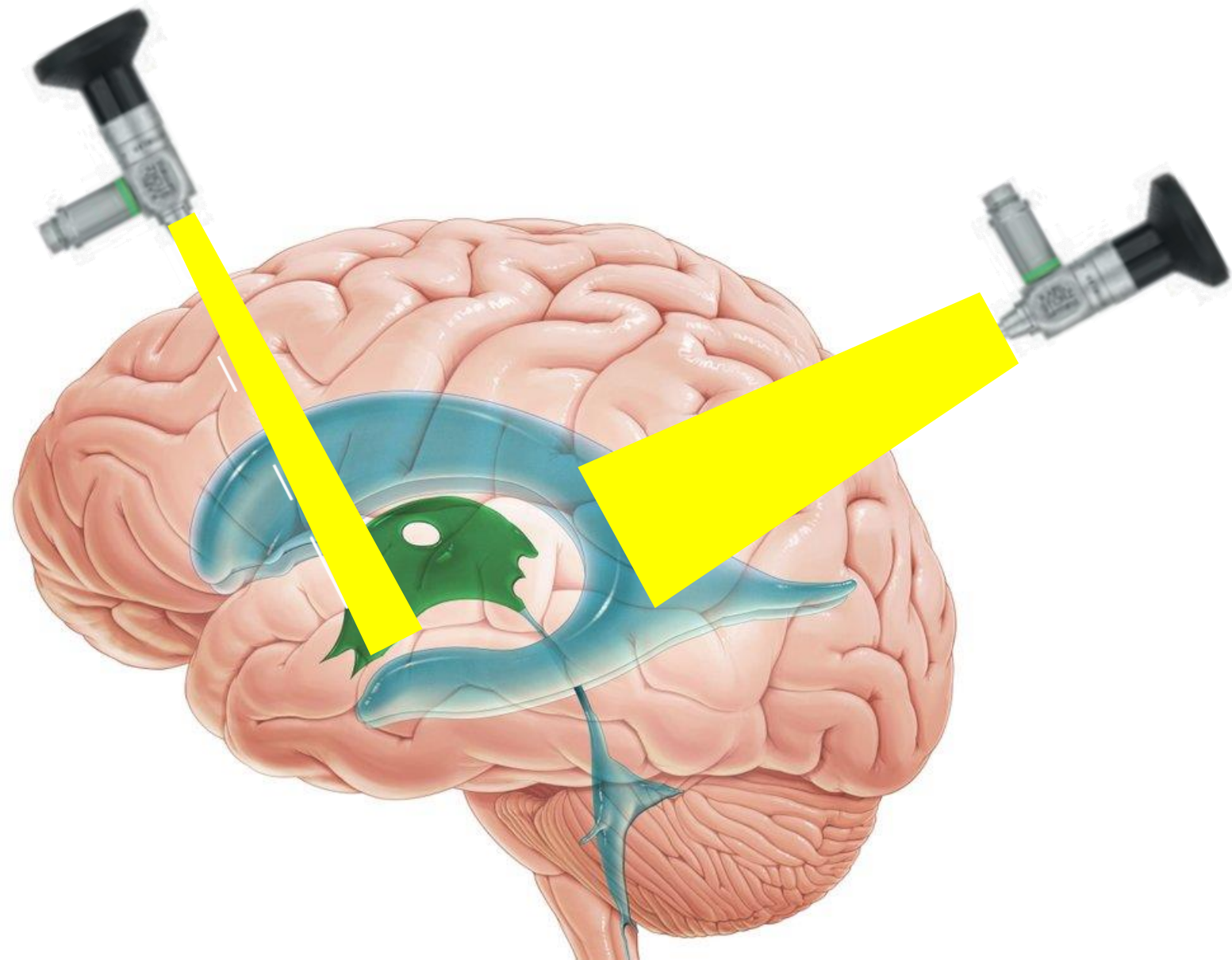




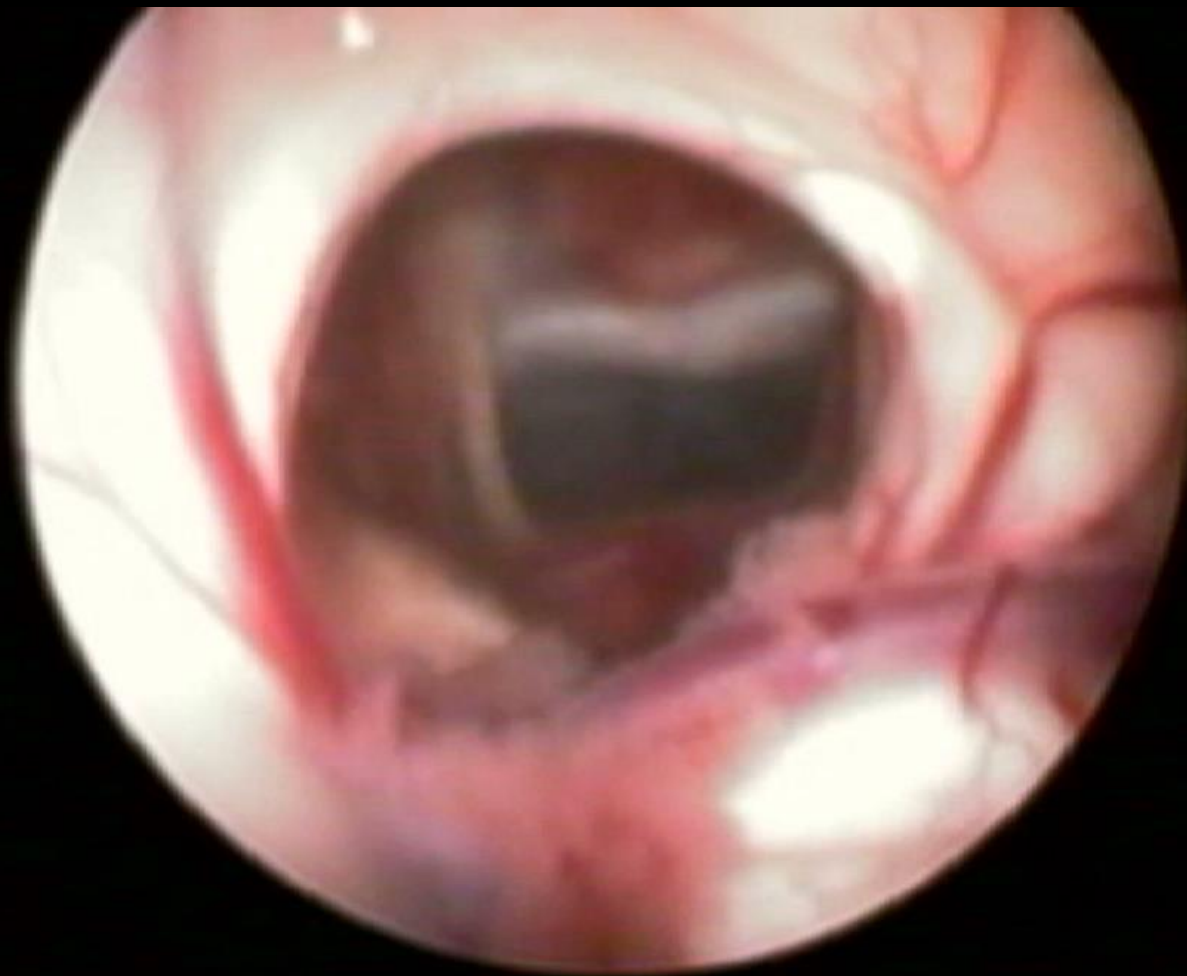
**Harold Horace Hopkins  
1966**

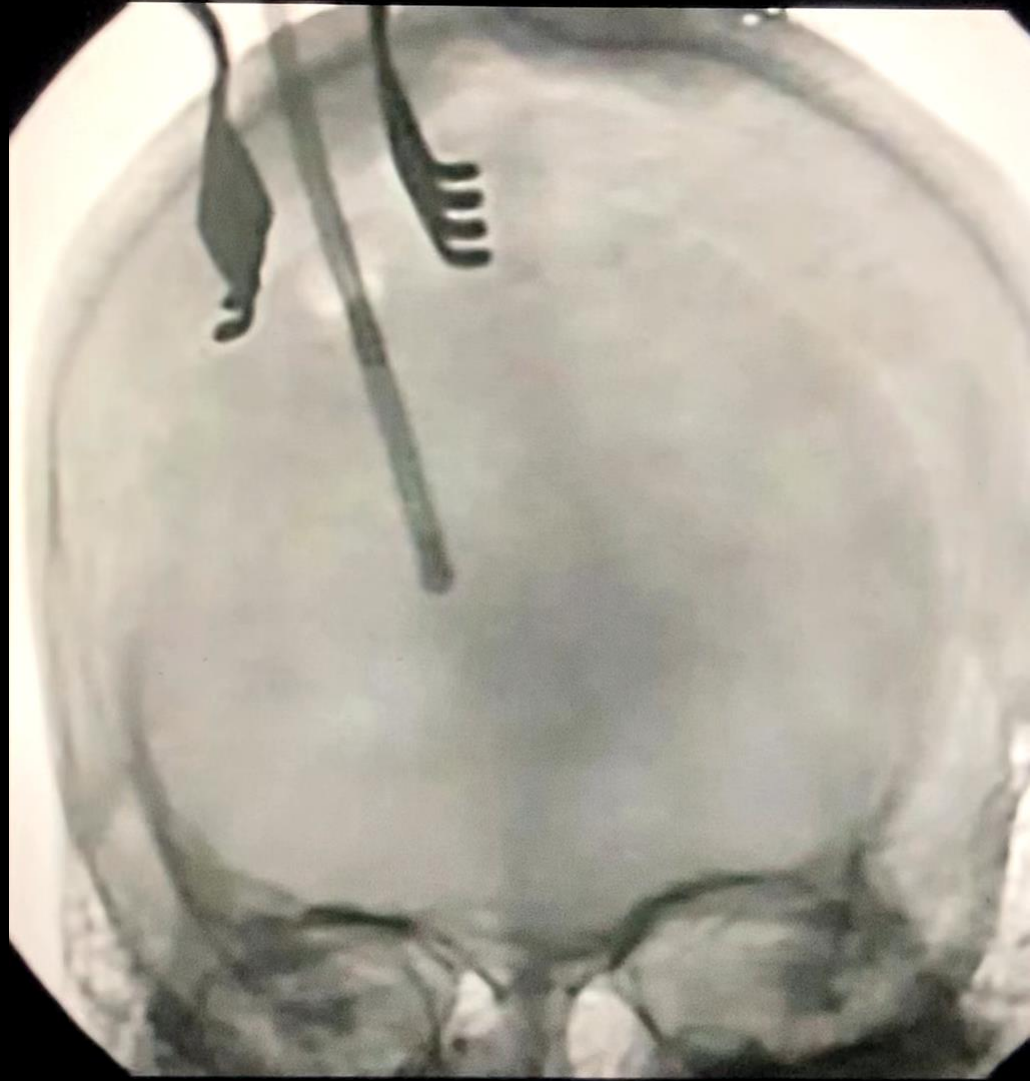




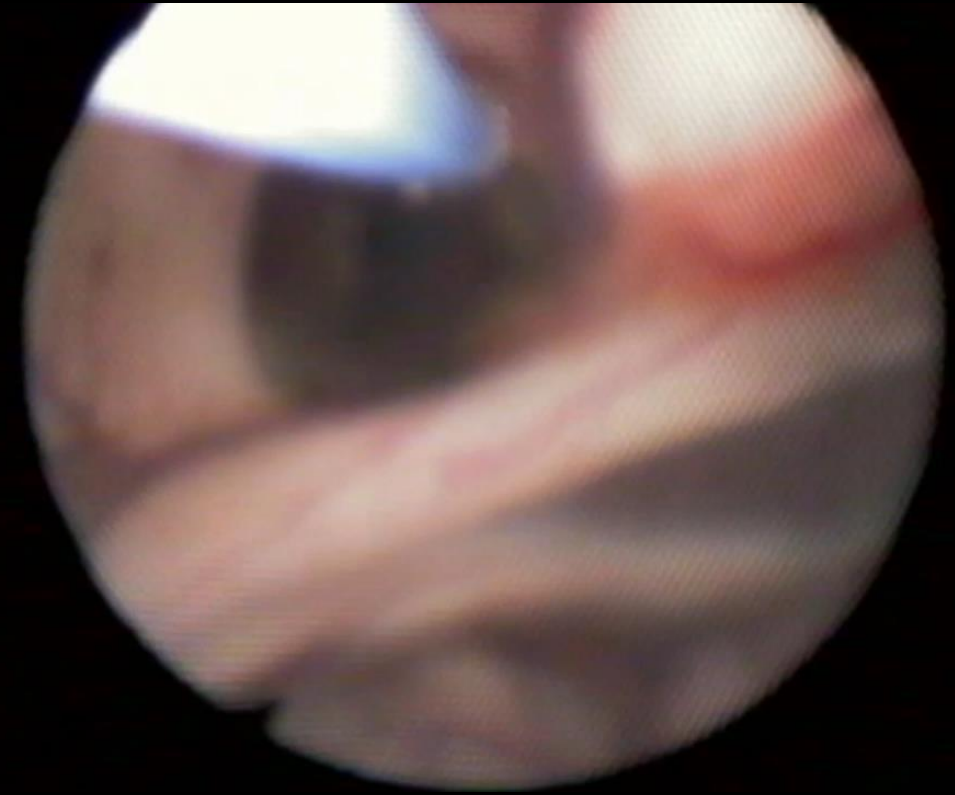
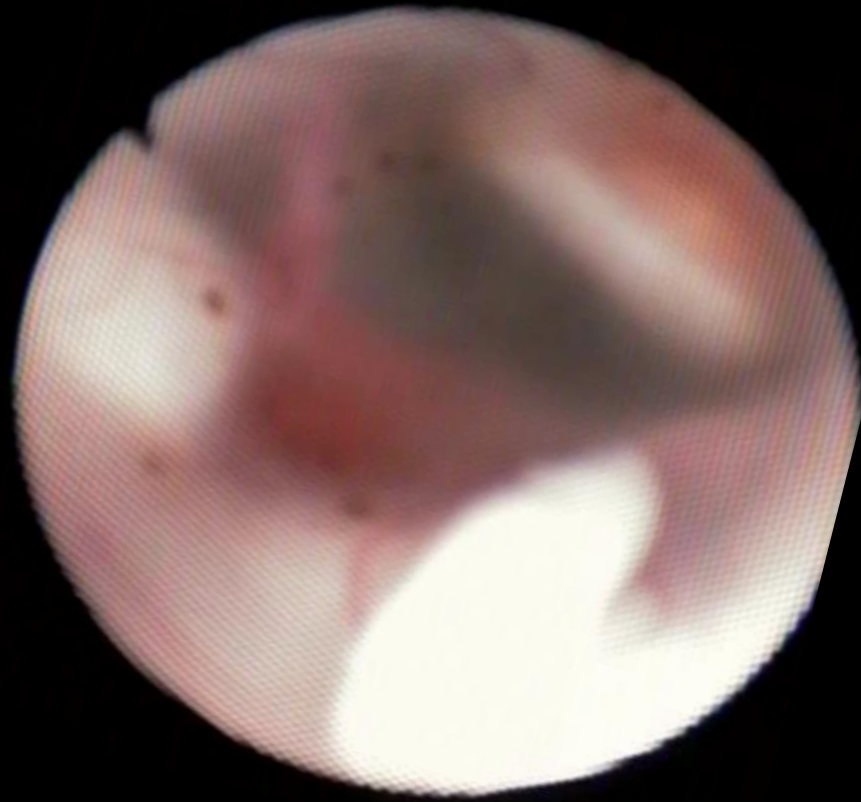


# Blake's pouch cyst

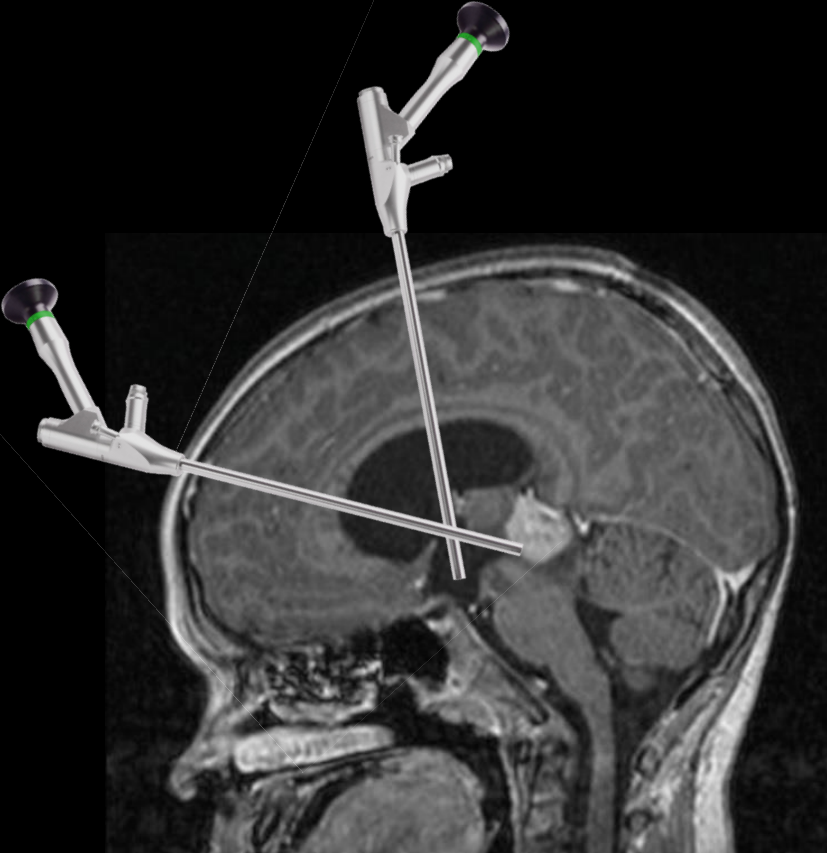




ETV + CPC

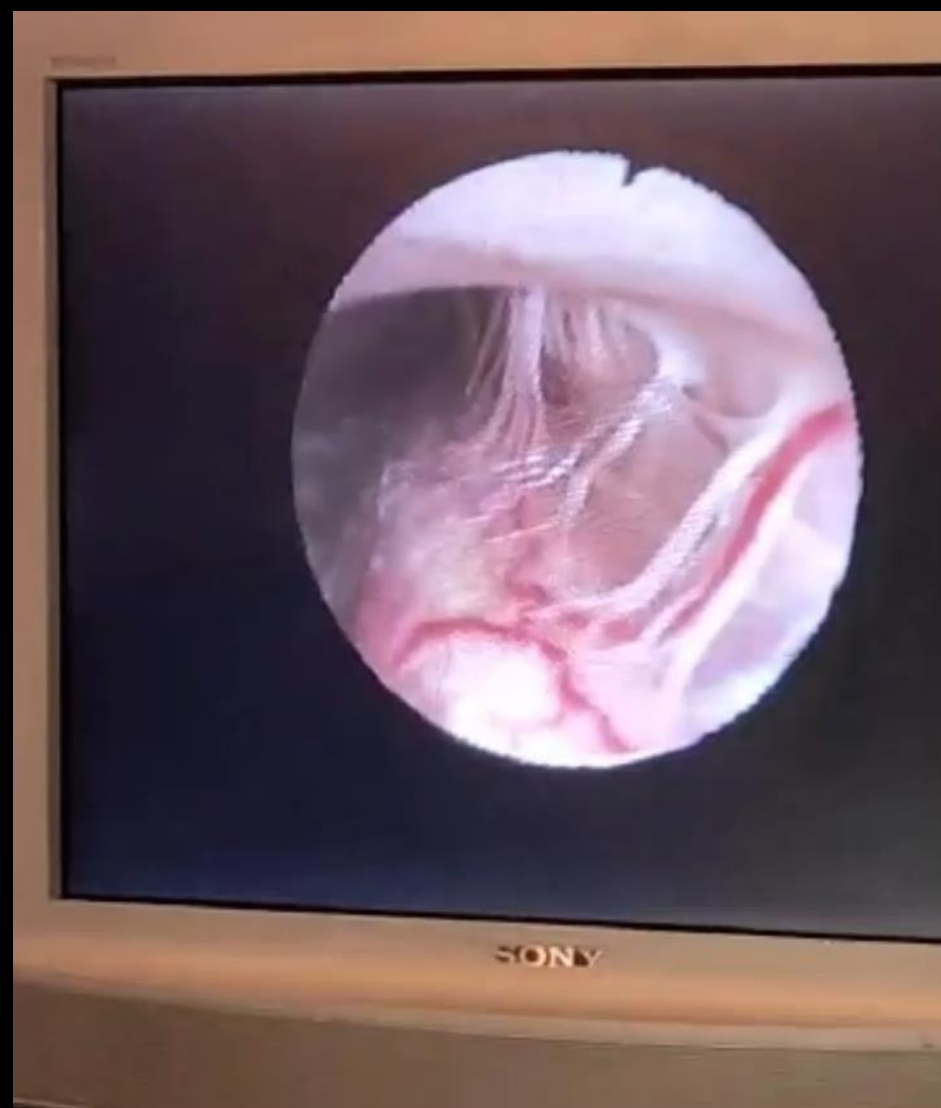


pineal lesion – ETV + biopsy

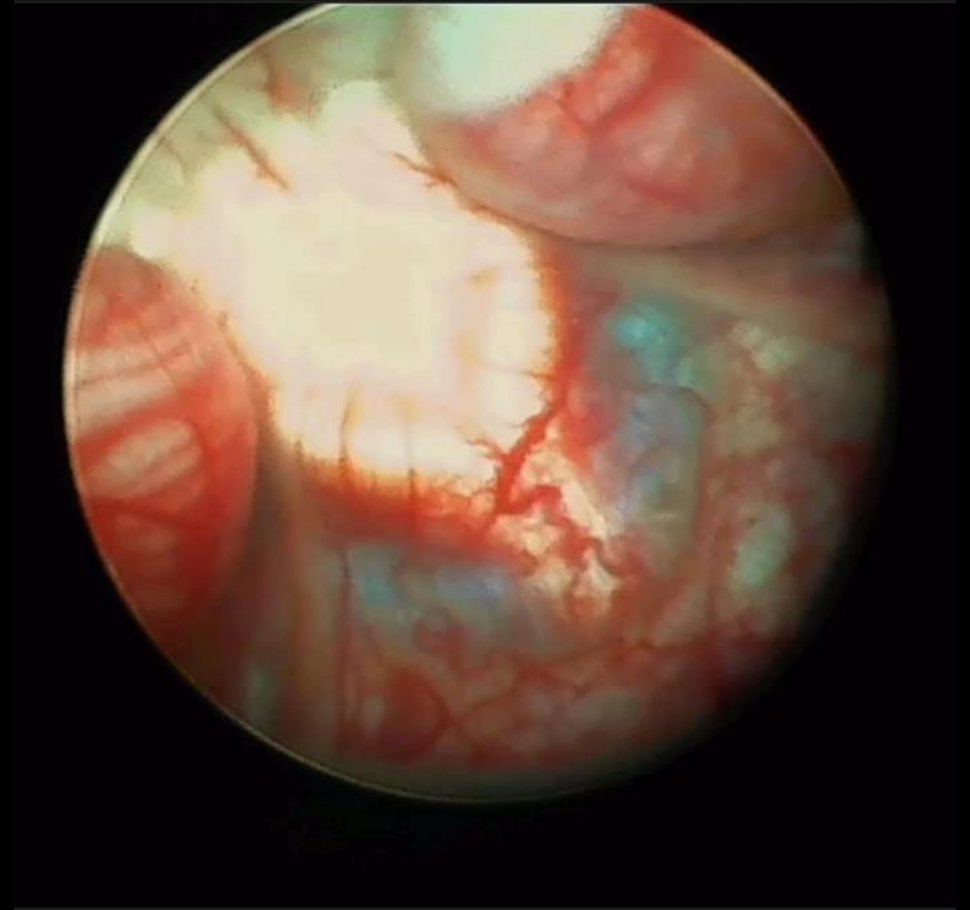
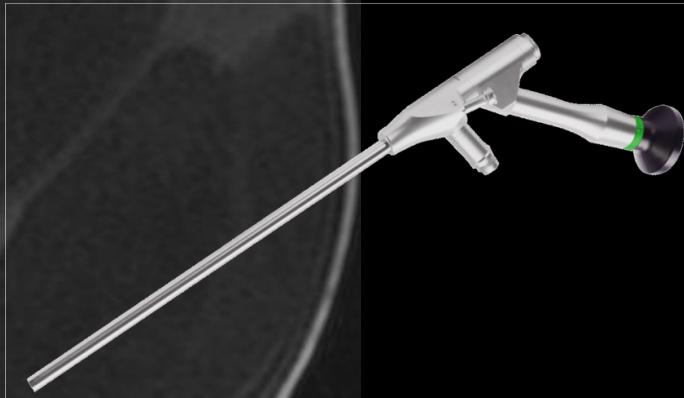


# **Rigid versus flexible neuroendoscopy: a systematic review and meta-analysis of endoscopic third ventriculostomy for the management of pediatric hydrocephalus**

Daphne Li, MD,<sup>1</sup> Vijay M. Ravindra, MD, MSPH,<sup>2</sup> and Sandi K. Lam, MD<sup>3,4</sup>



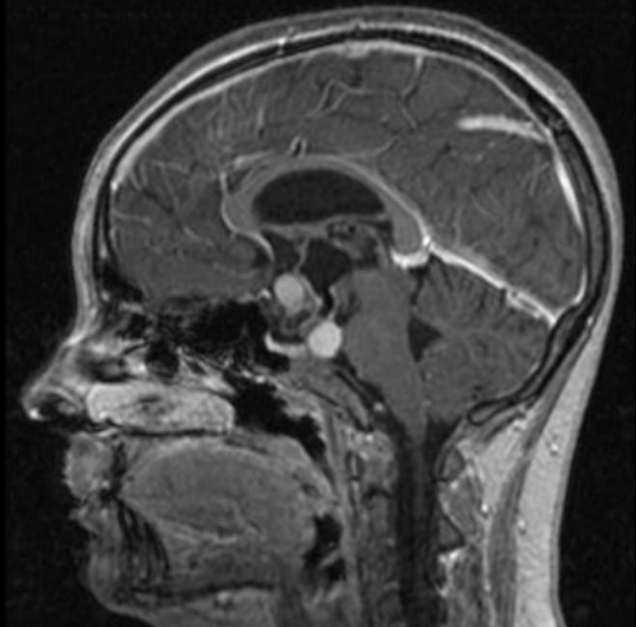
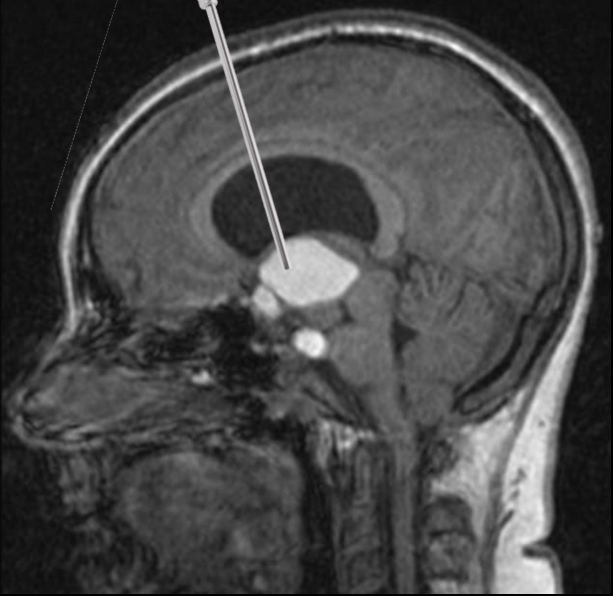
## Dandy – Walker malformation



catheter retrieval

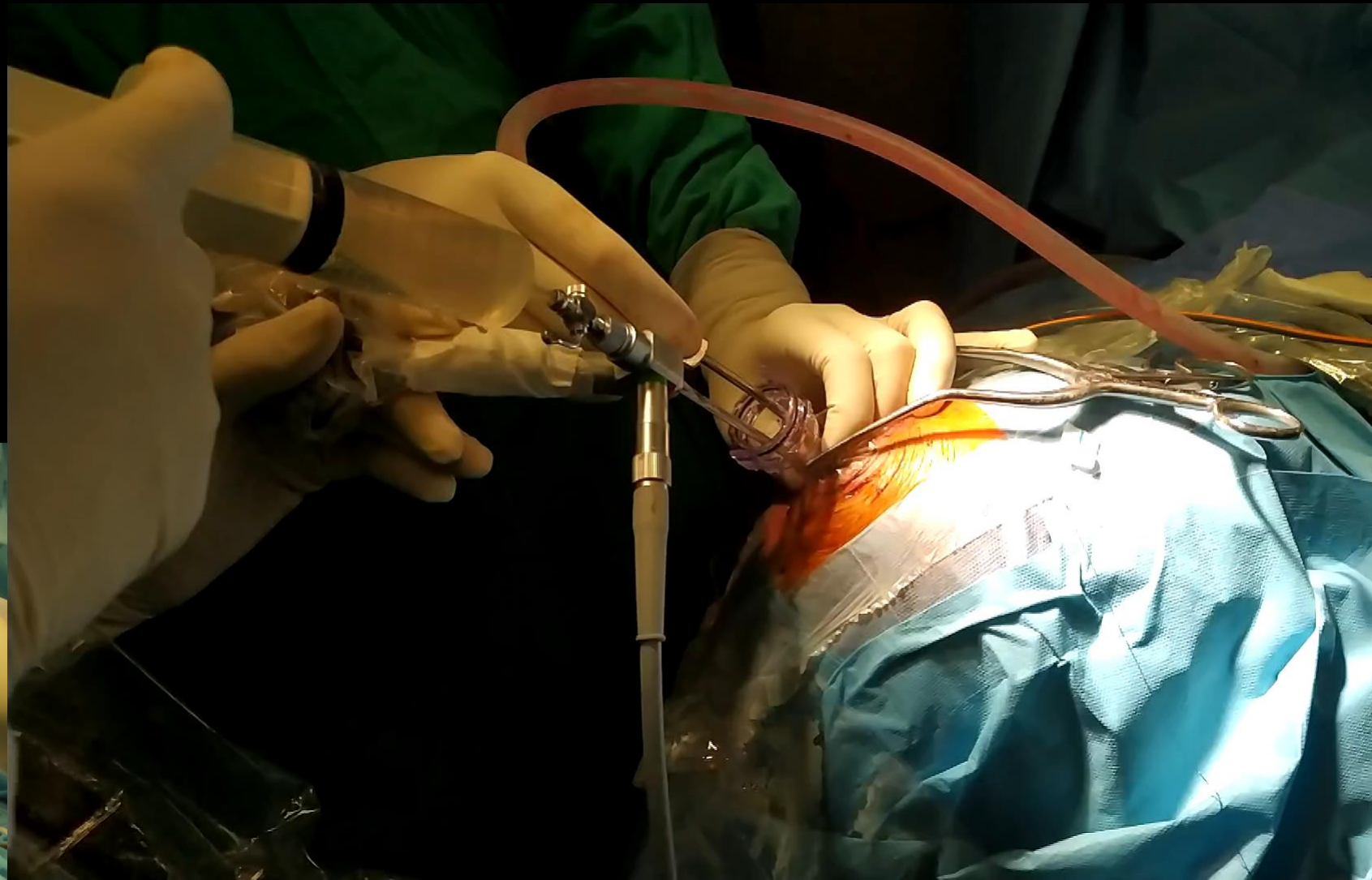


# craniopharyngioma I





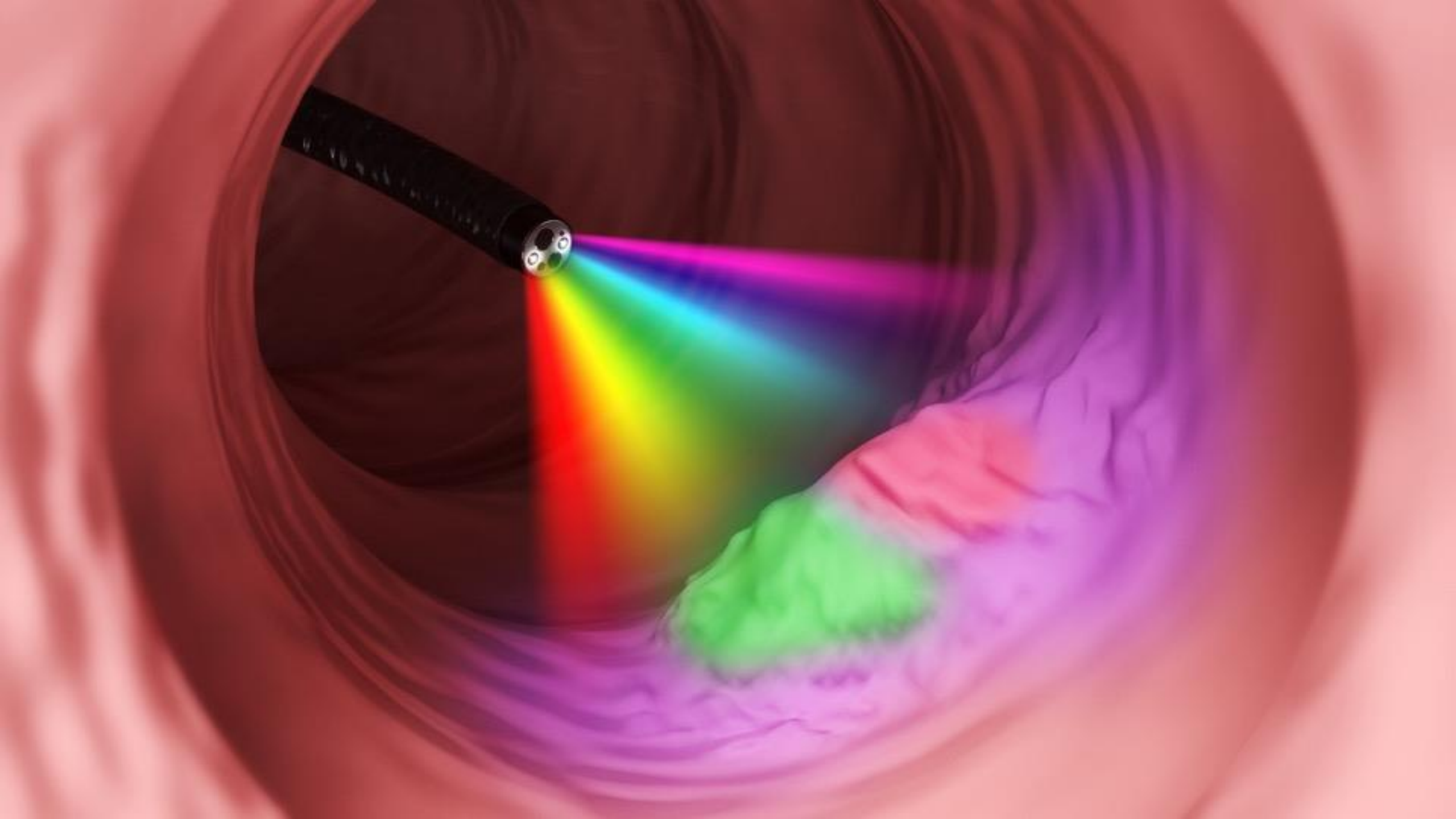
**intraparenchymal hemorrhage**



## **future of neuroendoscopy**

- **3D neuroendoscopy**
- **neuronavigation**
- **hyperspectral imaging (5-ALA, ICG)**
- **confocal endomicroscopy**
- **exoscopes**





Remaining 33 Eliminations 1

1231m 75

King133mali

soymalam

HempolAqs

4 KoxaT14

IOunvedasi

Manliken4sr

maher1993n

HD 103ms

2.6.117550 - 3.1b0mT - 5G-SHF\*LRss 2023/05/23 (UTC+0)

35/50

Map locations: Zharki, Severny, Stalber, Kameshki, Shooting Range (1,232m), Georgopol, Yasnaya Polyana, Hospital, Ruin, School, Mansion, Lipovka, Prison, Gatka, Pochinki, Farm, Mylta, Mylta Power, Quarry, Ferry Pier, Primorsk, Sosnovka Military Base, Novorepnoye (00:59).

Map grid: B, C, D, E, F, G, H; J, K, L, M, N, O, P

Legend:

- Recall Tower
- Supply Shop
- Show Legend

Buttons: Show Route, Mark, Remove Marker, Mark My Location

Close button (X)

Zoom in (+)

Zoom out (-)

Legend dropdown

Targeting icon

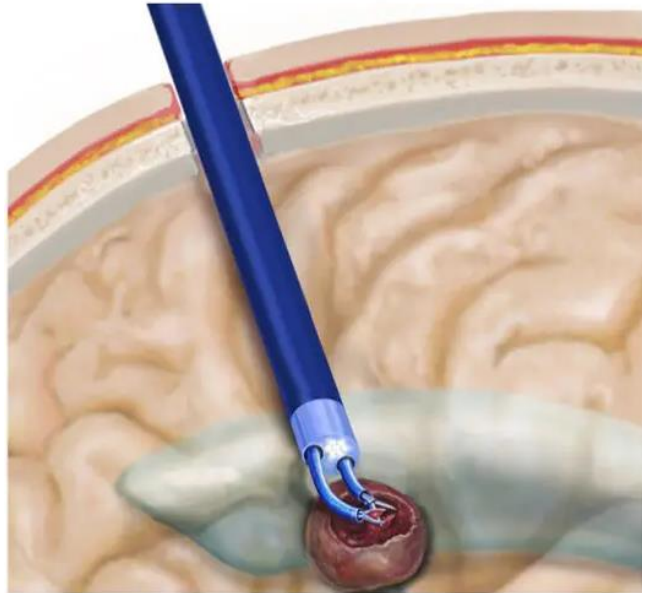


Dr. Andrei Gorkovtsov / Cosmo Pharmaceuticals / GI Genics



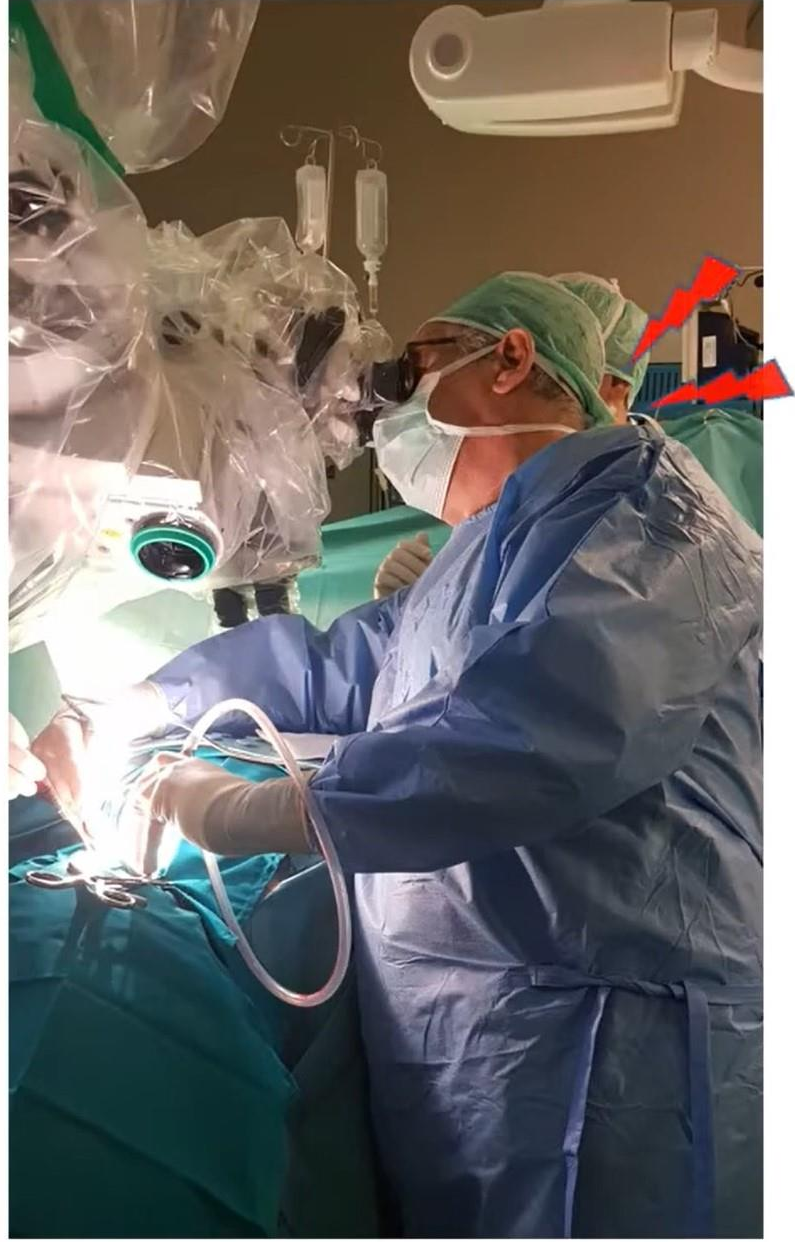
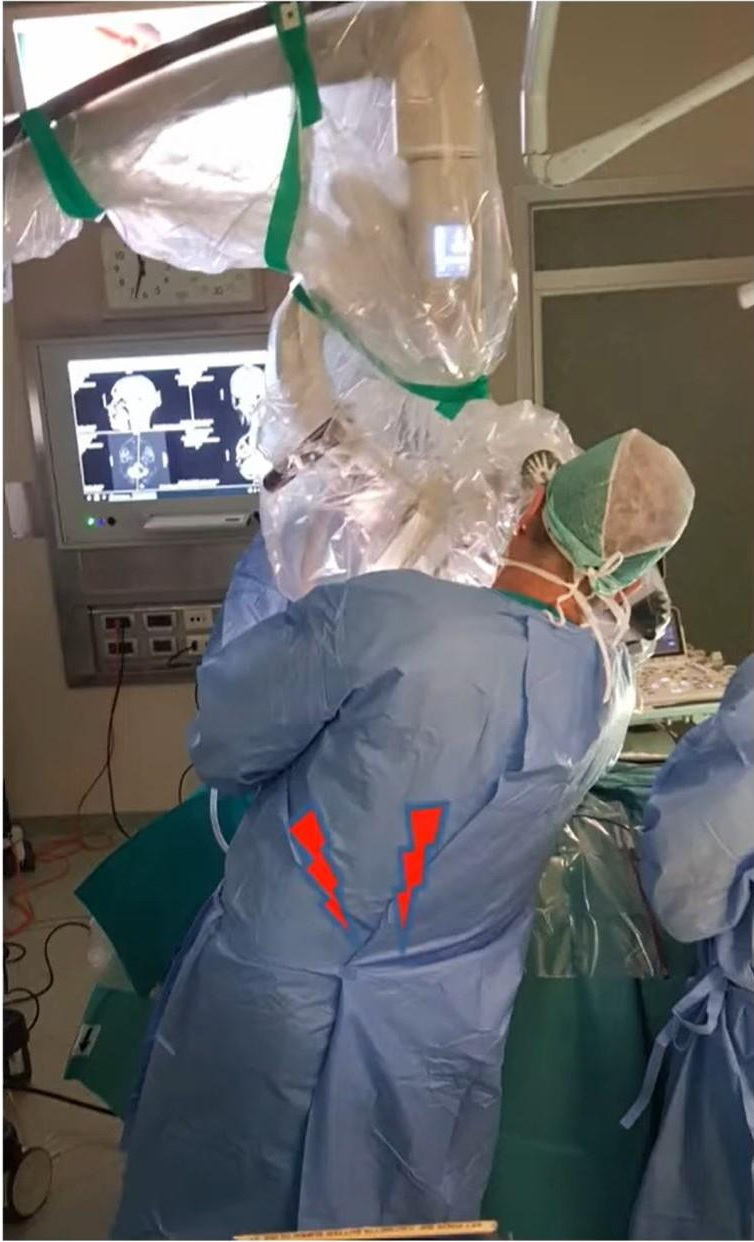
















STORZ

3D

STORZ

Image 5

S

STORZ

power LED 300

FL 300

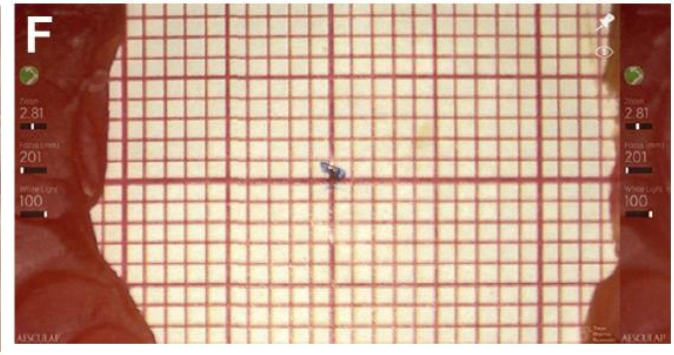
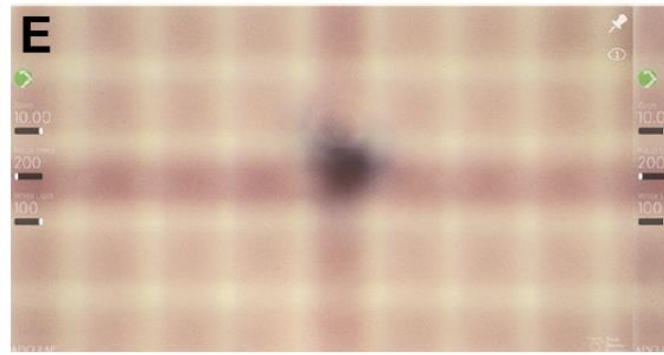
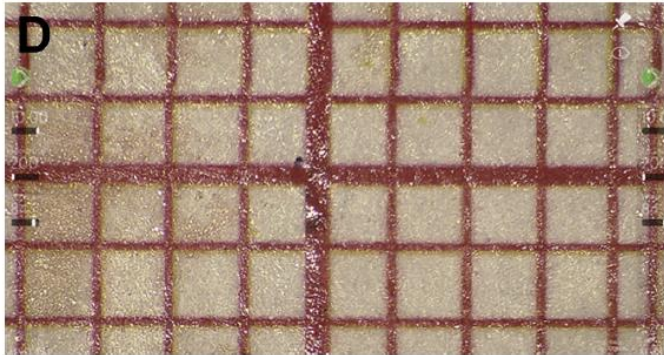
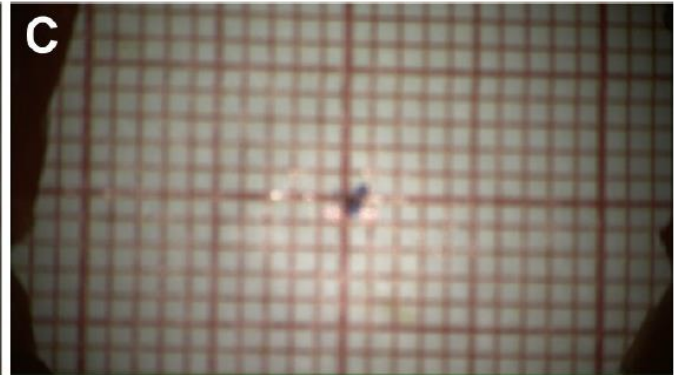
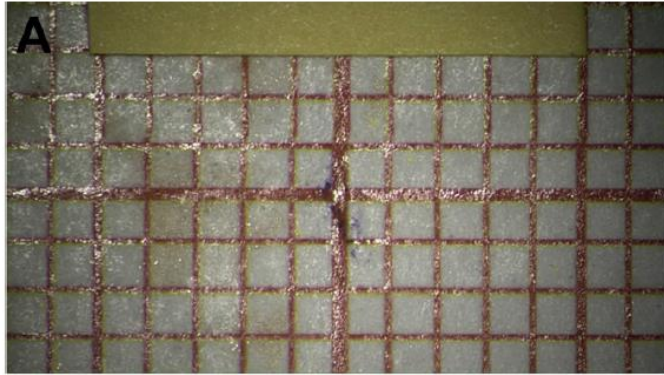






## Comparison of Operating Microscope and Exoscope in a Highly Challenging Experimental Setting

*Ahmad Hafez<sup>1</sup>, Roel H.L. Haeren<sup>1,2</sup>, Johannes Dillmann<sup>3</sup>, Aki Laakso<sup>1</sup>, Mika Niemelä<sup>1</sup>, Martin Lehecka<sup>1</sup>*



# **Why exoscopes?**

**improved ergonomics**

**enhanced teamwork**

**better 3D visualization**

