Borescope

In the last decades endoscopic techniques have been increasingly used in neurosurgery as they may offer a valuable close-up view of the working area through a minimally invasive surgical corridor. Herein, we present an inexpensive and efficient endoscopic surgical model using a borescope, which was used for a “modified pure endoscopic approach” to the pineal region.

METHODS: A borescope video camera was connected to a 16 inches personal computer monitor. A standard midline suboccipital craniotomy was performed on 2 cadaveric heads in the Concorde position. Then, a “borescopic” supracerebellar infratentorial approach was executed, thus reaching the pineal region which was exposed through an extensive arachnoid dissection.

RESULTS: Using the above described model, we were able to provide excellent exposure of the main neurovascular structures of the pineal region, as showed by the intraoperative videos. In one of the specimen we identified an incidental pineal cyst that was meticulously dissected and removed.

CONCLUSION: Our proposed “borescopic” surgical model may represent an inexpensive and efficient alternative to conventional endoscopic techniques, and could be used for training purposes as well as even for clinical procedures, after a proper validation, particularly in economically challenging environments [1)].

1)
Choque-Velasquez J, Miranda-Solis F, Colasanti R, Ccahuantico-Choquevilca LA, Hernesniemi J. Modified pure endoscopic approach to the pineal region: a proof of concept of an efficient and inexpensive surgical model based on laboratory dissections. World Neurosurg. 2018 Jun 20. pii: S1878-8750(18)31296-8. doi: 10.1016/j.wneu.2018.06.080. [Epub ahead of print] PubMed PMID: 29935314.