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LGG-43. LASER-ASSISTED ENDOSCOPIC RESECTION OF TECTAL GLIOMA IN A 3-YEAR-OLD CHILD
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BACKGROUND: Pediatric tectal gliomas generally have a benign clinical course. However, some patients may present with non-communicating hydrocephalus needing endoscopic procedures. Historically, lasers have been used in neurosurgical procedures including neuroendoscopy, but their adoption was limited by a significant rate of complication due to their inappropriate wavelength and uncontrollable tissue interaction. Recently, a 2-micron near-infrared laser with adequate wavelength and minimal tissue penetration became available. CASE-REPORT: We describe the case of a 3-year-old child who presented with gait ataxia, papilloedema and headache. Magnetic Resonance (MR) was performed and he was diagnosed with obstructive hydrocephalus due to tectal glioma. Endoscopic third ventriculostomy (ETV) and simultaneous endoscopic biopsy were performed during the same surgery using a single burr hole with a rigid endoscope, a 2-micron continuous-wave thulium laser and the aid of neuronavigation. After tumoral sample removal, the laser was used for hemostasis and to evaporate tissue near the tumour without mechanical stress to the brain tissue. The final histological analysis identified a non-otherwise specified (NOS) low-grade glioma. The hospitalization was uneventful and the boy was discharged home after 4 days. No new cognitive impairment was reported secondary to this procedure and the symptoms present in the preoperative period completely improved. At 1-year follow-up, neurological examination findings were unremarkable, and there was no radiographic evidence of tumour progression. CONCLUSIONS: The use of the neuroendoscopic laser permits cutting and coagulation simultaneously, avoiding multiple instruments’ use (forceps and coagulation). It therefore makes neuroendoscopic procedures more straightforward with a minimum need to change tools, and particularly suitable also in a pediatric setting.