to MTLE group for all genes. Upregulation for BCRP, MRP1 and UGT1A4 were statistically significant for Control versus FCD groups ($p < 0.05$). Further studies on bigger cohort of patients are required to conclude these findings.

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Endoscopic assisted inter hemispheric trans-callosal hemispherotomy: Preliminary description of a novel technique

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Background: Various hemispherotomy techniques have been developed to reduce complication rates and achieve the best possible seizure control.

Objective: We present a novel and minimally invasive endoscopic assisted approach to perform this procedure.

Method: Endoscopic assisted inter hemispheric trans-callosal hemispherotomy was performed in 20 children (April 2013–June 2014). The procedure consisted of the use of a small craniotomy (4×3 cm), just lateral to midline using a transverse skin incision. Following dural opening, the surgery was performed with the assistance of a rigid high-definition endoscope, bayonetted self-irrigating bipolar, and other standard endoscopic instruments. Steps included a complete corpus callosotomy followed by the disconnection of the hemisphere at the level of the basal nuclei and thalamus. The surgeries were performed in a dedicated operating room with intra-operative MRI and neuro navigation. Intra-operative MRI confirmed a total disconnection.

Results: The pathologies for which surgeries were performed included sequelae of middle cerebral artery infarct (8), Rasmussen's (4), and hemimegalencephaly (8). Four patients had a class I Engel and one patient had a class II outcome at a mean follow up of 10.2 months (range: 3–14 months). The mean blood loss was 80 cc and mean operating time was 220 min. There were no complications in this study.

Conclusion: The present study describes a pilot novel technique and the feasibility of performing a minimally invasive endoscopic assisted hemispherotomy.

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Endoscopic assisted (through a mini craniotomy) corpus callostomy combined with anterior, hippocampal, and posterior commissurotomy in Lennox Gastaut syndrome: A pilot study to establish its safety and efficacy

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Background: Corpus callosotomy (CC) is a palliative procedure especially for Lennox Gastaut semiology without localization with drop attacks.

Objective: To describe endoscopic assisted complete CC combined with anterior, hippocampal and posterior commissurotomy.

Methods: Patients with drug refractory epilepsy (DRE) having drop attacks as predominant seizure type, bilateral abnormalities on imaging, moderate to severe mental retardation. All underwent a complete work up (including MRI).

Results: Patients ($n = 16$, mean age 11.4 ± 6.4 years, range 6–19 years) mean seizure frequency: 24.5 ± 19.8/days (range 1–60); mean intelligence quotient: 25.23 ± 10.71. All had syndromic diagnosis of Lennox Gastaut syndrome (LGS), with etiologies: hypoxic insult (10), lissencephaly (2), bilateral band heterotropia (2) microgyria and pachygyria (2). Surgery: complete callosotomy and section of anterior and posterior commissure by microscopic approach through a mini craniotomy (11) and endoscopic assisted approach (5). Complications: meningitis (1) hyperammonemic encephalopathy (2) and acute transient disconnection (5). No mortality or long-term morbidity. Mean follow-up: 18 ± 4.7 months (range 16–27 months). Drop attacks stopped in all. Seizure frequency/duration decreased >90% in 10 and >50% in 5, increased in one patient. All patients attained pre-surgical functional levels in 3–6 months. Child behavior checklist scores: no deterioration. Parental questionnaire reported 90% satisfaction, attributing to control of drop attacks. The series was compared retrospectively with age/sex matched cohort (where a callosotomy only was performed), showed better outcome for drop attacks ($p < 0.003$).

Conclusion: This preliminary study demonstrated efficacy, safety of complete callosotomy with anterior, hippocampal and posterior commissurotomy in LGS (drop attacks) with moderate-severe mental retardation.

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