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Endoscopic treatment of a complex multiloculated hydrocephalus in a newborn**Silvana Tumbiolo¹, Ettore Fiumara¹, Michela Alba², Mario Cilona³, Nicola Cassata³**¹ *Divisione Neurochirurgia, Azienda Ospedaliera, Ospedali Riuniti Villa Sofia Cervello, Palermo, Italy*² *Divisione Neuroranimazione, Azienda Ospedaliera, Ospedali Riuniti Villa Sofia Cervello, Palermo, Italy*³ *Divisione Neonatologia, Azienda Ospedaliera, Ospedali Riuniti Villa Sofia Cervello, Palermo, Italy*

Introduction: The treatment of multiloculated hydrocephalus is always been a problem in pediatric neurosurgery. The treatment with endoscopic septostomy and whit subsequently ventriculo-peritoneal shunt is one of the most frequent surgical treatments utilized.

In literature while there are many works about endoscopic surgery in adult and pediatric patient, there are few reports about newborns patient treated with endoscopic procedure.

We report a case of a complex multiloculated hydrocephalus in a newborn treated with only endoscopic surgery.

Materials and Methods: In December 2009 a female baby was born, at the 34th week of gestation, by caesarean section. The perinatal ultrasound monitoring showed a hydrocephalus. She was admitted to Neonatal Therapy Intensive Unit of our Hospital and the MRI demonstrated: agenesis of the corpus callosum, interemisferical multiloculated cyst interesting the left lateral ventricle with associated hydrocephalus. Before the patient was submitted to external ventricular drainage; the liquor was limpid, without infection, slightly yellow. Fifteen days later, when the clinical conditions were better, the patient underwent surgery: small skin incision was made in left parietal, burr hole with drill, introduction of rigid endoscopy, septostomy and cysto-ventriculostomy.

The postoperative course was regular. The newborn was discharged without neurologic deficit with fountains in the standard and head circumference stable. The baby remained under observation with controls seriated ultrasound and MRI.

Results: Until now the child has a regular motor and mental development. The MRI (last in December 2013) shows a residual cystic dilatation without mass effect that remained stable over time.

Conclusions: The endoscopic technique has an important role in the treatment of multiloculated hydrocephalus in both adults and pediatric age groups. Our case shows that the endoscopic procedures can be safe and effective even in infants despite their fragility.