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Prenatal diagnosis in central nervous system anomalies: what the neurosurgeon needs to know

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Introduction: Central Nervous System (CNS) development consists of a continuum of events, each occurring at specific periods of time in gestation. Therefore, some of the CNS anomalies may appear late in gestation, thus remaining undiagnosed by the routine anatomy scan performed at 18–22 weeks of gestation.

Materials and Methods: The relevant literature was reviewed giving particular interest in the management before and after birth.

Results: Most of the CNS anomalies diagnosed in prenatal period require a “wait and see” attitude, like ventriculomegaly, arachnoid cysts or absence / dysgenesis of corpus callosum. Selected cases of myelomeningocele and very restrictive cases of hydrocephalus are treated in utero. In other anomalies as craniosynostosis or aneurysm of Galen´s vein we can use the information provided by the prenatal diagnosis to program postnatal surgery or endovascular treatment.

Conclusions: Prenatal diagnostic techniques have evolved significantly in the last decade. At present we have better conditions to assess more accurately the cases of CNS malformations. One important question still remains to be answered: if the neurosurgeons are nowadays in a position to offer a better prognosis for a fetus with a Central Nervous System anomaly. The answer is probably affirmative. The pediatric neurosurgeon should be part of the team of the Fetal Neurology Units and provide counseling to parents regarding prognosis and prenatal and postnatal management in cases of CNS anomalies.