

FETAL INTRACRANIAL TUMORS AND HAMARTOMAS

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OBJECTIVES: Fetal brain tumors are rare and form a heterogeneous group which is different from the one observed in older children. We report on a large series of 26 fetal intracranial tumours and hamartomas diagnosed at our institution.

METHODS: All cases were examined *post-mortem*. 24/26 were fetuses examined after a prenatal diagnosis between 15 and 36 weeks of gestation. A medical termination of pregnancy was performed because of a particularly severe prognosis, in accordance with French laws. One fetus died in utero. A neonate with a normal prenatal ultrasonographic examination at 32 weeks, died with a massive unexplained cerebral haemorrhage occurring few hours after birth. The other neonate had a prenatal diagnosis of a cerebral tumour at 33 weeks, was born at term and died two months after. In none case, there was a familial history of tumour or phakomatosis. The karyotype was normal when studied.

RESULTS: Our series included two main categories, namely *hamartomas* (n=13) and mixed *neoplastic lesions* (n=13). The sex ratio was 14 females: 12 males. Hamartomas were mostly diagnosed in the second trimester (12/13). Hypothalamic hamartomas (n=8) were generally associated with different malformative syndromes and showed a female preponderance (6 females: 2 males). Hamartomas of the tectum (n=5) were found after a prenatal diagnosis of severe hydrocephaly, in the early second trimester, except in one case. Neoplastic lesions comprised teratomas (n=5), choroid plexus papillomas (n=3) malignant glioneuronal tumours (n=2), oligodendroglioma (n=1), malignant glioma nos (n=1) and meningeal haemangioma (n=1). Neoplastic lesions were generally sporadic and diagnosed in the third trimester, most of which exhibiting a detectable intracranial mass on ultrasound and MRI.

CONCLUSIONS: Fetal intracranial tumours are uncommon entities with particular clinical, imaging and histopathological features. In most cases, the prognosis is severe either as a consequence of major hydrocephaly, rapid tumoral growth or multiple associated malformations.

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