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Case Report

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Neonatal Glioblastoma: A case report

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Abstract

Glioblastoma is a rare malignant tumor in children and very uncommon in infant in newborn. We report an exceptional case of a prenatal glioblastoma diagnosed in a newborn aged of month. Consciousness troubles with macrocrania were the predominant signs. MRI was a very useful tool to study the lesion. Surgical procedure was difficult because of the extent of lesion and the bleeding character of the tumor and also because of the age of the newborn, which lead to an imposed subtotal exeresis. The postoperative course was eventful by complications and the young patient died unfortunately. The histopathology confirmed the diagnosis of glioblastoma.

Keywords: Glioblastoma, Newborn, Surgery, Survival.

SUMMARY

Prenatal glioblastoma is a rare entity associated with a worse prognosis, even in the literature a few cases were reported. Congenital brain tumors are rare, accounting for 0.5% to 4% of all pediatric brain tumors. Prenatal diagnosis is often difficult in developing countries because of pregnancies not followed. The surgical care and surgical post is difficult.

CASE REPORT

The newborn aged of 1 months was brought to our consultation by his mother who observed a progressive macrocrania and vigilance disturbances of her baby,Through the mother questioning we learn that the deliverance was made normaly and without use of instruments. At the clinical examination the baby was obnubilated with an evident macrocrania without any neurologic deficit. Cerebral MRI showed a large hetergenous right parieto occipital tumor with a large base of implantation and many sites of necrosis, the diagnosis of meningioma was not eliminated beside the evident diagnosis of malignant glioma. After a good blood and general investigations we decided to operate the young patient. The surgical procedure discovered a malignant bleeding tumor but aspirable, the dura was not invaded. The extemporany histopathologic examination confirmed the diagnosis of glioblastoma and due to the continuous hemorrage of the tumor we were obliged to perform a subtotal exeresis. Post operative course was very difficult both for the anesthesiolists and the baby who benefit from blood transfusion and prolonged sedation but unfortunately the young patient died 48h later. Histological study also confirms the diagnosis of glioblastoma.

DISCUSSION

Congenital intracranial tumors are rare [1,2]. If such a lesion is detected before birth, it is usually an incidental finding on fetal ultrasonography. The definition of a "congenital" tumor is controversial [2]. Solitare and Krigman [3] classified neonatal brain tumors into three categories: (1) definitely congenital, those presenting or producing symptoms at birth; (2) probably congenital, those presenting or producing symptoms within the first week; and, (3) possibly congenital, those presenting or producing symptoms within the first few months. While this classification was limited by Wakai [4] two months of life. Most congenital glioblastomas arise in the cerebral hemispheres [5], the cerebello-pontine angle, and a cerebellar hemisphere also were described [6].

Presented with signs of increased intracranial pressure soon after birth (macrocrania) [7], giving rise to the suspicion of a cerebral haemorrhage or of hydrocephalus. Correct diagnosis of tumour was established by

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computerised tomography,MRI and intravaginal ultrasonongraphy which could additionally demonstrated a concomitant haematoma in many cases. With no specific treatment of the tumours being feasible, fatal course is the rule for such lesions in this age. The histopathologic diagnosis were based on features of necrosis, nuclear atypia and mitotic activity [7]. Median survival may exceed two years as demonstrated in a recent Winters JL [8] in 2001 of three cases of neonatal glioblastoma where two of the three cases have had long-term survivals of greater than 2 1/2 and 5 1/2 years after surgery and surgery followed by chemotherapy, respectively. Both of these cases also demonstrated p53 protein accumulation, a finding in pediatric glioblastoma multiforme associated with poor prognosis. Considering these three cases, the biological behavior in congenital glioblastoma multiforme may not be unfavorable as portrayed in the literature or as seen in its adult counterpart. While Seker [2] said in 2006 that radical tumor removal, administration of adjuvant therapy, and biological findings (such as a lack of the overexpression of p53 and epidermal growth factor receptor (EGFR) in the tumor cells) all point to a longer survival time. Manish K Kasliwal [9] reports that the prognosis for all these children has been uniformly grim with most of the cases reported in literature dying within two months and only a few cases surviving for more than two years.

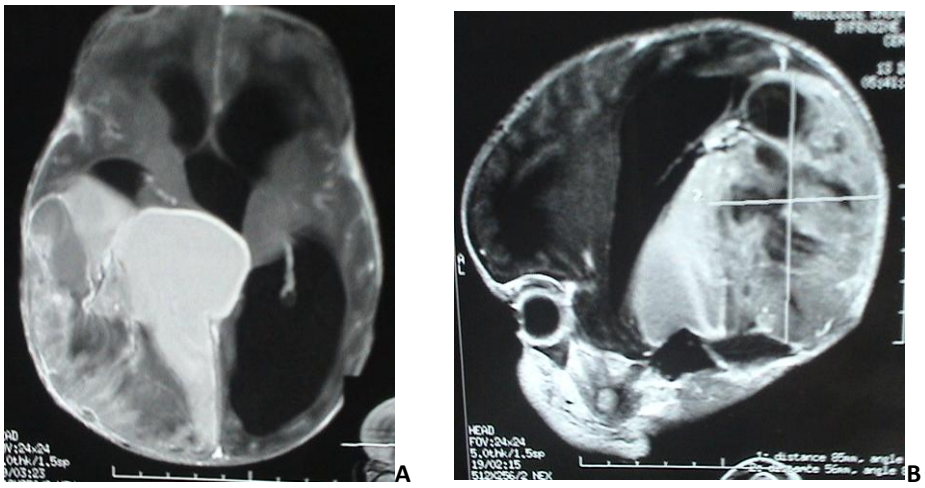

Figure 1: Images A and B: Brain MRI axial and sagittal T1 gadolinium

CONCLUSİON

Glioblastoma is a malignant tumor, which exeptionnelle in antenatal, diagnosis can be suspected prenatally. The macrocrania remains the main clinical sign. The scaner and especially MRI allows more detailed study of the tumor. There is no clear indication that complete excision or less extensive debulking offers a better risk-benefit profile to the patient. Surgery remains the only real treatment. Studies show that the combination with other treatments (chemotherapy), allows achieves a median survival superior or equal to that of the adult.

Conflicts of Interest

The authors declare no conflict of interest.

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