



G9 Unexpected Death Due to Undiagnosed Medulloblastoma in Twin Pregnancy: A Case Report

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After attending this presentation, attendees will learn about a peculiar case of unexpected death due to a brain tumor in a young pregnant woman.

This presentation will impact the forensic science community by stressing the importance of a complete forensic approach to ascertain the causes and means of death and to evaluate possible profiles of professional liability.

A case is presented of unexpected maternal death due to an undiagnosed medulloblastoma in a 28-year-old woman at the 33rd week of bigeminal pregnancy with neurologic symptoms which had been going on for the month prior to her death.

A woman in her 33rd week of twin gestation, presented at hospital with headache, nausea, and vomiting. She had a history of gastritis one month beforehand.

During the last hospitalization there was the onset of vertigo and nystagmus. Following a consultation with a neurologist and an otolaryngologist, vestibular neuritis was diagnosed. She didn't undergo any instrumental examination since she was pregnant. Two weeks after the diagnosis while she was still hospitalized, she presented with acute frontal headache and died approximately three hours later.

An emergency cesarean section was attempted but it failed to save the twins. A forensic autopsy was performed four days later, which showed a non-encapsulated neoplastic mass between the left lobe of the cerebellum and the vermis (70 x 30mm) surrounded by massive edema. At histology the neoplasm was identified as a medulloblastoma with a IVth grade of malignancy (Louis D.N. et al, 2007).

Death was ascribed to acute cardio-respiratory failure caused by the compression of the brainstem carried out by the tumoral mass.

The twins didn't present with any pathology that could have possibly lead to death, so the cause of their death may be attributed to hypoxia following the maternal cardiac arrest.

Although pregnancy is considered a normal biologic process, it is associated with various physiologic and anatomic changes resulting in an increased risk of death.

The most common types of maternal death include vascular accidents, ranging from 10 to 20%, along with pulmonary embolism, cervical and coronary thrombosis, cerebral hemorrhage, as well as rare events such as rupture of the splenic artery aneurysm (Sharma BR et al, 2009 - He MX et al, 2010).

The incidence of unexpected death due to primary intracranial tumors in forensic practice is low. Particularly, medulloblastomas are relatively rare in adults accounting for only 2.4% of all intracranial tumor types (Merchant TE et al, 2010).

In an analysis of 10,995 medicolegal autopsies in only 19 (0.17%) resulted in an unexpected death due to an intracranial neoplasm of which only one (0.01%) was a medulloblastoma (Di Maio S et al., 1980).

Brain tumors tend to become larger and show accelerated growth during pregnancy due to fluid retention, increased blood volume or pregnancy hormones (Chang L. et al., 1999).

In conclusion, in this case the autopsy was paramount in order to ascertain the cause of death. It is questionable whether a prompt medical intervention with a cesarean section would have allowed the survival of the twins. However, considering the advanced stage of pregnancy, the absence of any sign of pathology regarding the two babies and the availability of perinatal intensive therapy care unit it is highly probable that the two would have survived.

Pregnancy, Medulloblastoma, Unexpected Death