A case of primitive neuroectodermal brain tumor

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Objective

To present this rare condition of brain tumor in a fetus and the correlation of ultrasound and magnetic resonance imaging (MRI) characteristics with the postmortem histopathology and immunohistochemical analysis of the tumor.

Methods

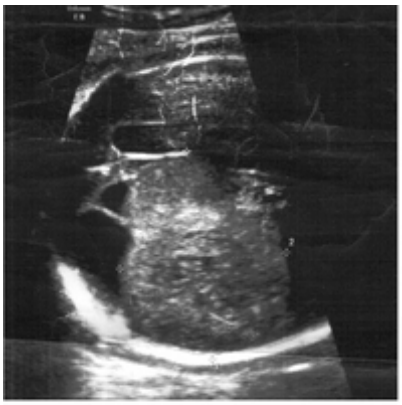
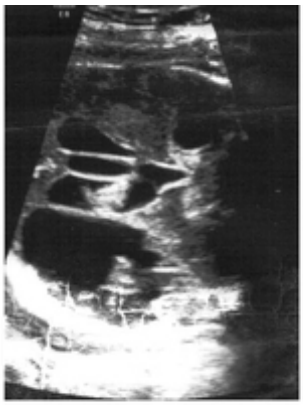
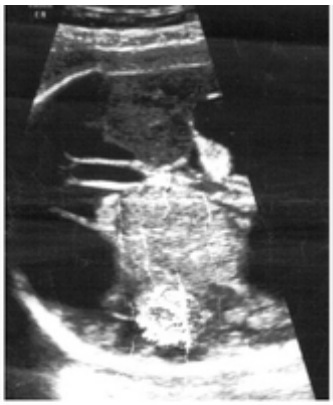
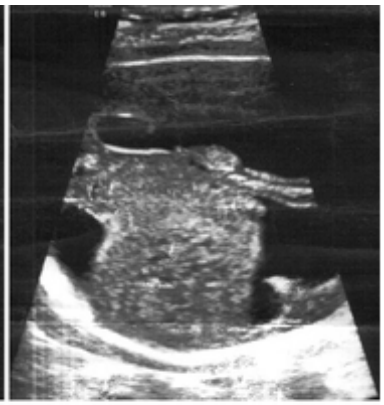
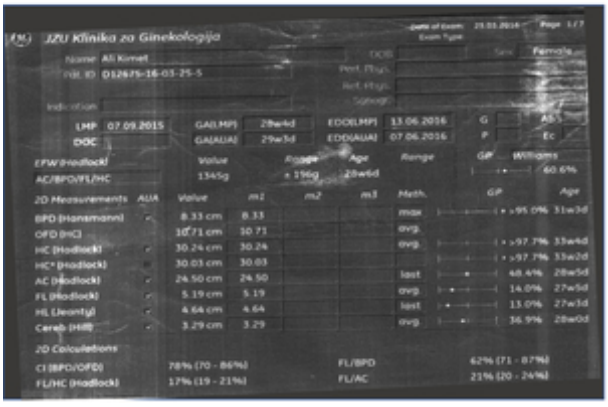
This is a case report.

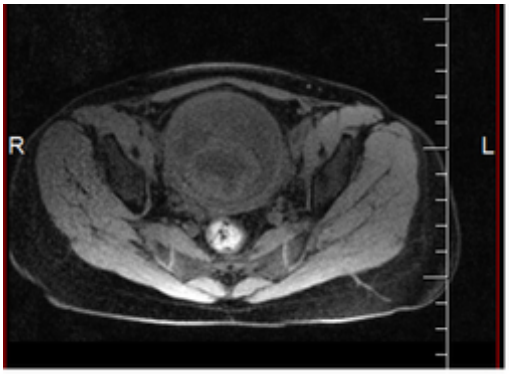
Results

While performing an ultrasound on a singleton pregnancy, an heterogenous tumor - like mass, with dimension around 70 mm, located at the right brain hemisphere was detected. There was right ventriculomegaly of 26 mm and shift of the cerebral falx to the left. MRI was performed and raised suspicion of primitive neuroectodermal brain tumor (PNET) or Glioblastoma. In T2 transverse plane a tumor lesion with heterogenous signals was found, consisting of solid anechoic and peripheral cystic components. In addition, dysgenesis of corpus callosum was detected, as well as hydrocephalus with chamber width of 29 mm. The parents decided to terminate the pregnancy. The woman delivered a stiillbirth male fetus weighing 1700 grams and 42cm long. The histopathological report after immunohistochemical analysis confirmed the diagnosis of supratentorial PNET from glial and neuronal origin (Vimentin (+), S100 (+), CD34 (-), GFAP (+), Actin (-/+), Desmin (-), CD99 (-), EMA (-), CKWS (-), Chromogranin (-), NSE (+), WT1 (+), Synaptophysin: positive single cells and Ki 67 proliferative index: 2-3%).

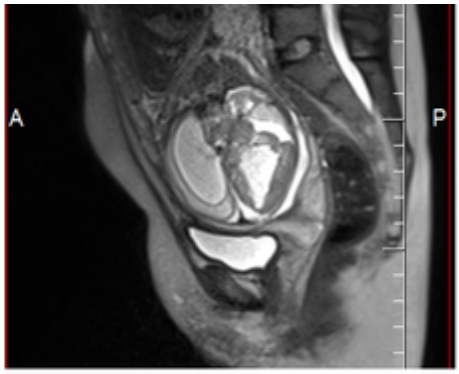
Conclusion

Tumor - like head lesions are difficult to diagnose with precision prenatally, due to their origin diversity. Tuberous sclerosis or in utero brain thrombosis and hemorrhage need to be excluded. This condition should be diagnosed as early as possible before fetal viability and therefore, all available imaging techniques for diagnosis should be employed.

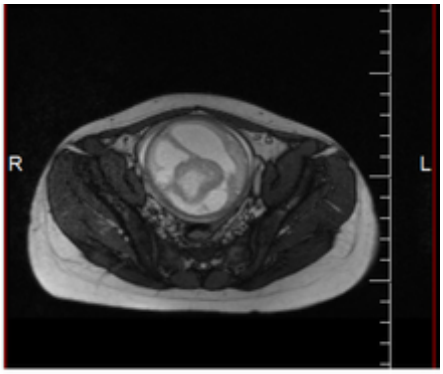








T1 axial fat sat



T2 HASTE cor. ramnina



T2 Truffi transferzal