Choroid plexus carcinoma case reports

A 38-year-old woman presented a medical history of Parinaud syndrome and occasional facial weakness. Brain magnetic resonance imaging revealed a mass lesion in the pineal region and posterior part of the third ventricle with obstructive hydrocephalus. She underwent subtotal resection through a supracerebellar infratentorial approach. After the histopathological diagnosis of CPC, the patient underwent a second surgery with gross total resection and adjuvant radiotherapy. CPC in adults, given its extreme rarity, does not have a standardized treatment. Gross total resection should be the first step of the treatment: however, according to the literature, gross total resection is achieved only in 40-75% of cases in CPC as opposed to 95% in choroid plexus papilloma, mainly due to the difficulty in managing a highly vascularized tumor in such a deep location. Chemotherapy has not an established role and adjuvant treatment is based on radiotherapy. In the case described hereby the gross total resection associated with surgical treatment of hydrocephalus and adjuvant radiotherapy has achieved a good clinical and radiological outcome [1)].

2015

A 73 years old male patient who was consulted with headache to our neurosurgery department. In cranial computed tomography, there was a mass in 4(th) ventricle and we confirmed the mass with magnetic resonance imaging. After surgery had been performed, pathology specimen was diagnosed as choroid plexus carcinoma which was rarely seen in this age group [2)].

2014

A 39-year-old pregnant woman whose fetus was found to have a large hydrocephalus on routine prenatal ultrasound at the 29th gestational week. A 56 mm × 73 mm mass was detected in the fetal brain arising from the brainstem and invading the third cerebral ventricle. On the subsequent fetal cranial MRI, T2-weighted image the tumor measured 55 mm × 50 mm × 48 mm and had a non-homogeneous consistency and irregular contours. Elective cesarean section was performed during gestational week 32, delivering a male fetus with a cranial circumference of 46 cm (normal circumference, 30 cm) and a birth weight of 2920 g. The infant expired 4h following delivery. Autopsy revealed a carcinoma of the choroid plexus. The case, like others, suggests that MRI is more accurate than prenatal ultrasound in prenatal brain tumor diagnosis. More precise morphological detail is provided by MRI, which improves surgical planning and survival [3)].

A 1-year-old male child presented with ataxia and intracranial hypertension since 2 months. The noncontrast computerized tomography (CT) scan showed a heterogenously hyperdense lesion in right posterior fossa region with gross hydrocephalus. The magnetic resonance imaging (MRI) revealed a posterior fossa lesion with the epicenter being located in the 4th ventricle, the presence of a solid and cystic component with extension into the right cerebellar hemisphere. The cystic component was uniformly hyperintense on MRIT1 and T2 sequences, and the fluid attenuation inversion recovery (FLAIR) sequence. The solid component appeared isointense on T1, T2 sequences and had a heterogeneous contrast enhancement . Although diffusion weighted imaging (DWI) would provide us with added information, this was not available as the patient was referred to us with imaging. At

surgery, the cyst had machine oil like fluid, usually characteristic of craniopharyngioma cysts. The solid component of the tumor was soft, friable, and vascular with a clear margin separating the tumor from the brain stem with an absent interface and vermian infiltration at places. [4].

2009

A rare extraventricular, intraparenchymal choroid plexus carcinoma (CPC). This 6-year-old girl presented to the emergency department with a 1-week history of headaches, nausea, and vomiting. Imaging studies revealed an intraaxial cystic and solid mass located in the right frontal lobe with central nodular enhancement and minimally enhancing cyst walls. Gross-total resection was accomplished via craniotomy without complications. The initial pathological diagnosis was atypical teratoid/rhabdoid tumor (AT/RT); however, immunostaining for INI1 protein (using the BAF47/SNF5 antibody) showed retention of nuclear staining in the tumor cells, resulting in a change in the diagnosis to CPC. There was no evidence of recurrence at the last follow-up 2.5 years after treatment, which supports the diagnosis of CPC over AT/RT. This case emphasizes the importance of immunostaining for INI1 protein for distinguishing CPC from AT/RT in cases with atypical or indeterminate features [5].

1)
Crea A, Bianco A, Cossandi C, Forgnone S, Fornaro R, Crobeddu E, Marino D, Piras G, Scalia G, Saglietti C, Boldorini R, Galzio R, Panzarasa G. Choroid Plexus Carcinoma in Adults: Literature Review and First Report of a Location into the Third Ventricle. World Neurosurg. 2019 Oct 16;133:302-307. doi: 10.1016/j.wneu.2019.10.051. [Epub ahead of print] Review. PubMed PMID: 31629149.
2)
Ozdogan S, Gergin YE, Gergin S, Senol O, Tiryaki M, Tatarli N, Hicdonmez T. Choroid plexus carcinoma in adults: an extremely rare case. Pan Afr Med J. 2015 Mar 30;20:302. eCollection 2015. PubMed PMID: 26161225.
3)
Joó GJ, Reiniger L, Papp C, Csaba A, Komáromy H, Rigó J Jr. Intrauterine diagnosis and pathology of fetal choroid plexus carcinoma–a case study. Pathol Res Pract. 2014 Dec;210(12):1156-9. doi: 10.1016/j.prp.2014.01.009. Epub 2014 Feb 12. PubMed PMID: 25034609.
4)
Salunke P, Sahoo SK, Madhivanan K, Radotra BD. A typical radiological presentation in a case of choroid plexus carcinoma. Surg Neurol Int. 2014 May 7;5:63. doi: 10.4103/2152-7806.132103. eCollection 2014. PubMed PMID: 24991466; PubMed Central PMCID: PMC4078459.
5)
Stevens EA, Stanton CA, Nichols K, Ellis TL. Rare intraparenchymal choroid plexus carcinoma resembling atypical teratoid/rhabdoid tumor diagnosed by immunostaining for INI1 protein. J Neurosurg Pediatr. 2009 Oct;4(4):368-71. doi: 10.3171/2009.5.PEDS0955. PubMed PMID: 19795969.