

Case Report

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Multiple Choroid Plexus Cysts: a case report**Ahter Tanay Tayyar¹, Mehmet Tayyar²**¹Department of Obstetrics and Gynecology, Zeynep Kamil Maternity and Childrens Training and Research Hospital, İstanbul, Turkey²Department of Obstetrics and Gynecology, Erciyes University Medical Faculty, Kayseri, Turkey

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Abstract

The incidence of choroid plexus cyst (CPC), in trisomy 18 45-50 %, in trisomy 21 1-2%. For this reason, the effect of bilaterality, size, and multiplicity of CPC on the aneuploidy risk is controversial. In this case report we discussed the effect of multiplicity of CPC on the aneuploidy risk. Generally accepted opinion is positive first and second trimester screening test or detection of another malformation with sonography is more important than laterality or multiplicity of CPC for karyotype analyzing. Prenatal karyotyping is needed when maternal serum screening markers are abnormal or another markers are found on sonogram. Thirty-year-old (gravida 3, parity 2) referred at 19 weeks gestation due to 6.4 mm, 6 mm, 4 mm unilateral, multiple CPC formation. In second trimester sonography, there was no another abnormal ultrasound abnormality detected. Maternal serum second trimester and quadruple test results were normal. Amniocentesis was not applied to the patient. At the term, the healthy baby was delivered.

Keywords: Choroid plexus, cyst, aneuploidy**Introduction**

The incidence of CPC represents approximately 1% in second trimester. Choroid plexus develops approximately 6 weeks of gestation in lateral and fourth ventricles. Choroid plexus produces cerebrospinal fluid in the 9th week gestation. The wall of ventricles covered with epithelium and than lobulated with villi. As the villi become enlarged a cystic space is formed. After 12 weeks hyperechoic areas becomes most prominent structure in fetal brain. Most villi form seen in 18 weeks of gestation and cysts may occur as the same time [1]. The first description of CPC on sonography appeared in the literature in 1984. The association of CPC with fetal aneuploidy, especially trisomy 18, was first noted in 1986[2,3]. There are many studies in literature about prenatal diagnosis, management and prognosis of CPC. Based on these case report, we aimed to describe if more than one CPC determined in same ventricles, how is effects prognosis of the fetus. CPC is a small fluid-filled structure within the choroid of the lateral ventricles of the fetal brain.

Frequently cysts regress at 28 week gestation[4,5]. The incidence of CPC 1% in second trimester. CPC has an association with trisomy 18 and 21. Pregnancies with trisomy 18, CPC risk detected 30 % [6]. On the other hand, fetuses with trisomy 21 this risk was found 1.4%. Other chromosomal abnormalities related with CPC concluded trisomy 13(2 %) and triploidy (1 %), [7,8]. Peleg and Yankowitz asserted that there is no correlation

between, either size, laterality, complexity of the CPCs and aneuploidy. [9]. In this case report we discussed the effect of multiplicity of CPC on the aneuploidy risk.

Case Report

A 30-year-old female patient gravida 3, parity 2 was seen at 19 weeks gestation. A screening sonogram performed as the same time showed unilateral, multiple CPC. The diameters of the cysts were 6.4 mm, 6 mm and 4 mm (Figure 1). There was no another pathologic sonographic finding. Maternal serum second trimester and quadruple test results were normal. The patient declined amniocentesis. At birth, the baby has normal Apgar score and to be in healthy condition.

**Figure 1.** Multiple choroid plexus cysts in unilateral ventricles**Discussion**

Counseling for a woman after prenatal identification of a fetal choroid plexus cyst detected on ultrasound exam at 18 to 20 weeks, sonogram of the fetal hands, heart, and central nervous system by sonographer to search for other abnormalities [10]. Despite the low incidence of

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isolated CPC on prenatal sonogram, sonographer must take into consideration the risk of aneuploidy; Until further studies are completed, the risks and benefits of genetic testing must be weighed against the risk of aneuploidy in light of modifying risk factors.

The risks associated with trisomy 18 and 21 and modifying risk factors, such as maternal age, serum markers, and other sonogram findings should be explained for the patient. The option for karyotype analyzing should be explained along with its risks and benefits. Amniocentesis is recommended when CPC is found with other abnormalities [11]. Noninvasive prenatal testing may be a reasonable option for women who are concerned about the procedure-related risk of pregnancy loss [12].

Generally accepted opinion is positive first and second trimester screening test or detection of another malformation with sonography is more important than laterality or multiplicity of CPC for karyotype analyzing [13]. Some authors suggested that If CPC larger than 10 mm, aneuploidy risk become more higher.

Ultrasound characteristics of choroid plexus cysts (size, complexity, bilaterality, and persistence) should not be used to further modify risk because these factors do not significantly impact the likelihood of trisomy 18 [14].

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