

# A Rare Cause of Intrauterine Plagiocephaly within Twin Pregnancy: A Case Report

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The word plagiocephaly is occurred from Greek for “slanted” (plagio) and “head” (kephale).

Plagiocephaly describes a planar or multiplanar cranial asymmetry which can be occurred in prenatal or postnatal period. In prenatal period, the most reason for associated plagiocephaly is intrauterine pressure (multiple birth infants (especially dizygotic twins), amount of amniotic, small pelvis and uterine tumors etc.). It has been demonstrated in recent studies that the location of the fetuses within uterus, importantly their position and orientation in the uterus and also the number of fetuses play crucial roles in the development of plagiocephaly during pregnancy.

In this report, it was reported that in the case of the dizygotic twin- pregnancy due to the location of the babies in the uterus, they are prone to develop plagiocephaly.

**Key Words:** Plagiocephaly, Twin pregnancy, Location of the fetuses

Gynecol Obstet Reprod Med 2014;20:108-109

## Introduction

Plagiocephaly describes a planar or multiplanar cranial asymmetry which can be occurred in prenatal or postnatal period. The cases occurring in the prenatal period can be mostly associated with intrauterine pressure, while the ones in postnatal period are commonly related to the lying position of baby.<sup>1,2</sup>

It is determined that one of the main reasons for plagiocephaly with intrauterine pressure is the environment of a restrictive intrauterine.<sup>3</sup> In these cases, since there is a limited space within uterus, the fetus does not find a space for her/his movement or gets stuck only in one position.<sup>3</sup> This constraint can be resulted from various reasons including the presence of multiple fetuses, twins or triplets, the excess or very little amount of amniotic fluid or presence of a small pelvis.<sup>3</sup>

In this report, a case for intrauterine plagiocephaly in twin pregnancy is presented.

## Case Report

A 25-year-old female who had 36 week-twin pregnancy to her first child, came to Gülhane Military Medical Academy (GMMA), Obstetrics and Gynecology Clinics in the city of

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Submitted for Publication: 26. 08. 2013

Accepted for Publication: 20. 11. 2013

Ankara/Turkey due to the pains that she complained about. The first anamnesis of the patient indicated that she had in vitro fertilization (IVF) pregnancy with two - embryo transfer and it also showed that cervical cerclage was applied to the patient in her 16-week - pregnancy period.

Beside this, regular contractions of the patient were followed with the help of non-stress test (NST) in her physical controlling and it was seen in obstetric ultrasonography that the both fetuses were presented with breech presentation and it was also revealed that while placental location positioned at the anterior wall of the uterus for the first fetus, it located at the posterior wall for the second one. The position of the baby's head in the uterus - as in the top side of the uterus - is seen in the figure 1. In the transvaginal ultrasonography, the length of the cervix was determined as 12 mm in above cerclage and 6mm in under cerclage. After planning the preparations for the operation, the delivery was performed by caesarean section.

After caesarean section, the babies were controlled and examined by the pediatrician and the neurosurgeon. By controlling the first baby's (who positioned in the right side of the uterus) (figure 2) left frontal and temporal bone, it was seen that there was a hollow inside without fracture. Other controlling findings were normal. And in the second baby's (who positioned in left side of the uterus) (figure 3) control, it was seen that the frontal and parietal bones were flattened at the upper part of the head, other examination findings were normal as the first one. Both of the babies were sent for the radiologic control by transcranial ultrasonography and cranial computerized tomography. Both of the radiologic tests were reported as normal.

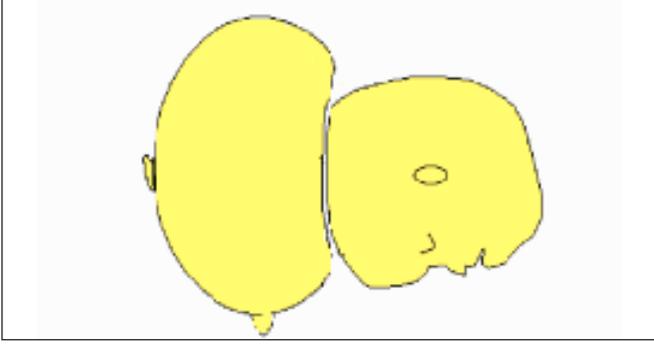


Figure 1: The position of babies' heads in the uterus



Figure 2: The first baby's (who positioned in the right side of the uterus) left frontal and temporal bone, it was seen that there was a hollow inside



Figure 3: The second baby's (who positioned in left side of the uterus) control, it was seen that the frontal and parietal bones were flattened at the upper part of the head

## Discussion

The environmental factors that cause intrauterine plagiocephaly, are examined together; the risk seems too associated with firstborns, low-birth weight, breech or transverse intrauterine presentation, multiple birth infants (especially dizygotic twins), amount of amniotic fluid and small pelvis. However these environmental factors; the most predictor for deformational plagiocephaly is the lying position of the baby.<sup>4</sup>

It has been demonstrated in recent studies that the location of the fetuses within uterus, importantly their position and orientation in the uterus and also the number of fetuses play crucial roles in the development of plagiocephaly during pregnancy.<sup>3</sup> Thus, future research must be designed especially to

resolve the interactions among environmental factors for effective prevention, rather than simply treatment.

However, the potential effects of plagiocephaly in the physiologic sequel of the patients remains unclear.<sup>5</sup> It has been revealed in some studies that the disease can lead to visual disturbances as well as neurological disorders, but this is an open question to be determined.<sup>5</sup>

In this report, it was reported that in the case of the dizygotic twin- pregnancy, due to the location of the babies in the uterus, they are prone to develop plagiocephaly.

## İkiz Gebelerde İntrauterin Plagiocefalinin Nadir Oluşumu Sebebi: Olgu Sunumu

Plagiocefali, Yunanca'dan gelen "eğimli" (plagio) ve "baş" (kep-hale) kelimelerinden oluşmaktadır. Plagiocefali, prenatal veya postnatal periyotta oluşabilen bir veya birden fazla düzlemsel kranial asimetriyi tarifler. Prenatal periyotta, plagiocefaliye en sık sebep olan intrauterin basınçtır (birden fazla doğan bebekler (özellikle dizigotik ikizler), amniyotik mayi miktarı, küçük pelvis ve uterin kaynaklı tümörler vb). Birçok çalışmada fetüslerin uterus içindeki lokalizasyonu, özellikle pozisyonları, uterus ile olan oryantasyonları ve fetüslerin sayıları gebelik süresince plagiocefali gelişiminde kritik roller oynarlar. Bu olguda, dizigotik ikiz gebelerde, fetüslerin uterus içindeki pozisyonunun, plagiocefali gelişimi açısından önemli olduğu rapor edilmiştir.

**Anahtar Kelimeler:** Plagiocefali, İkiz gebelik, Fetüslerin yerleşimi

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