

■ PRENATAL DIAGNOSIS OF TRANSIENT CONGENITAL DACRYOCYSTOCELE – CASE REPORT

PRENATALNIE ROZPOZNANA USTĘPUJĄCA IN UTERO WRODZONA TORBIEL WORECZKA ŁZOWEGO – OPIS PRZYPADKU

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ABSTRACT

Congenital dacryocystocele is one of the rare malformations of the facial region. It is caused by the nasolacrimal duct obstruction. It appears more often in female newborns with familial predisposition to the obstruction of the nasolacrimal duct. Usually, it is diagnosed prenatally by the ultrasound in the third trimester scan. Dacryocystocele can cause some problems in infancy. This paper reports the case of properly prenatally diagnosed dacryocystocele which self-regressed shortly before the term. The infant examination did not reveal any malformations in the facial and other structures. There was no sign of the cyst without any treatment in the neonatal period shortly after delivery.

KEYWORDS: Dacryocystocele, nasolacrimal duct, prenatal ultrasonography, congenital cyst.

STRESZCZENIE

Dacryocystocele – torbiel woreczka łzowego jest rzadką wadą wrodzoną okolicy twarzy. Jej powstanie spowodowane jest zwężeniem i zamknięciem odpływu kanalik nosowo-łzowego. Częściej występuje u noworodków płci żeńskiej z rodzinną predyspozycją do występowania zaburzeń w tym zakresie. Wada ta rozpoznana może być prenatalnie w trakcie badania ultrasonograficznego najczęściej w trzecim trymestrze ciąży. Torbiel woreczka łzowego może być bezobjawowa bądź powodować wiele problemów po urodzeniu, wymagając leczenia a nawet interwencji zabiegowej, cewnikowania i udrożnienia kanalika. W poniższym artykule opisano przypadek prawidłowo prenatalnie zdiagnozowanej torbieli kanalika łzowego, która na krótko przed końcem ciąży samoistnie się zmniejszyła, a następnie całkowicie zaniknęła, nie wymagając leczenia i w krótkim okresie po porodzie nie pozostawiła żadnego śladu u dziecka.

SŁOWA KLUCZOWE: dacryocystocele, torbiel woreczka łzowego, diagnostyka prenatalna, ultrasonografia, wrodzona torbiel.

Introduction

Dacryocystocele is a rare variant of the nasolacrimal obstruction. The incidence is low: about 0.1 % cases in the population of neonates with the nasolacrimal duct impotency [1]. The dacryocystocele originates in occlusion of the nasolacrimal duct as an effect of concomitant Rosomuller valve upper obstruction and lower obstruction of the Hustner valve. It is more often diagnosed in females with familial predisposition to this kind of obstruction [1]. In 75% of cases it is unilateral but in 25% we can observe this pathology in both sides of the face. Usually, the dacryocystocele is diagnosed prenatally during an ultrasonography performed in the third trimester. Spontaneous resolution occurs by 6 months of age in 91% of cases [2, 3]. After birth children with dacryocystocele may present a spectrum of symptoms corresponding to the size and location of the cyst. The small, skin-covered, soft tumour is visible on the face in the naso-orbital region. The differential diagnosis should be done to distinguish between dacryocystocele, haemangioma and other benign or malignant tumours.

The ultrasonography is the best non-invasive method to verify the proper diagnosis without anaesthesia and exposition to radiation [1–6]. In more complicated cases the MRI or CT may be necessary. The treatment depends on the additional symptoms. First, the affected neonates are treated with manual massage and systemic antibiotics if needed. In some cases the patients may need diagnostic endoscopy, then catheterisation and drainage in general anaesthesia. The respiratory distress caused by the occlusion of the nasal duct may occur if the cyst is spreading to the nasal cavity disturbing breathing when the neonate is eating and sleeping [1, 6].

Case report

A twenty five year old pregnant woman in the second pregnancy, after one physiological labour without any complications, was admitted to the ultrasonography room for the third trimester routine ultrasound scan in the 30th week of gestation. The previous ultrasonog-

raphy performed in the first and the second trimester (the NT – scan and the anomaly scan) did not reveal any pathological findings. The viable normal male fetus was visualised. The estimated fetal growth and fetal weight were within normal ranges corresponding to the gestational age. In the third trimester scan the small hypoechogenic lesion was seen in the naso-orbital region at the right side of the fetal face. The size of the area was about 8–10 mm. In Doppler examination there was no vascularity in the mass observed. There were no other pathological findings in the structures of the fetus, placenta and umbilical cord. The amniotic fluid volume was accurate. The growth was normal and the estimated weight was optimal for the gestational age. All the sonographic examinations were performed with the use of the GE equipment Voluson 730 Pro with 2–7 MHz convex probe. The diagnosis of congenital dacryocystocele was confirmed in another centre of prenatal ultrasonography. The fetus was referred for the next ultrasound scan within 2 weeks. During the next control ultrasound scans performed in the 32nd and 34th week of gestation the lesion size was estimated at 6–9 mm. In the 37th week of gestation in the ultrasound scan only 3 mm hypoechogenic area was seen in the nasolacrimal duct. After physiological birth in the 40th week of gestation the neonate was examined by paediatricians and did not present any symptoms of nasolacrimal duct obstruction. There was no sign of the occlusion or cyst in this area.



Figure 1. Two-dimensional ultrasound scan at 30 weeks of gestation showing the profile of the fetal face with hypoechogenic mass (dacryocystocele) below and medial to the fetal right eye

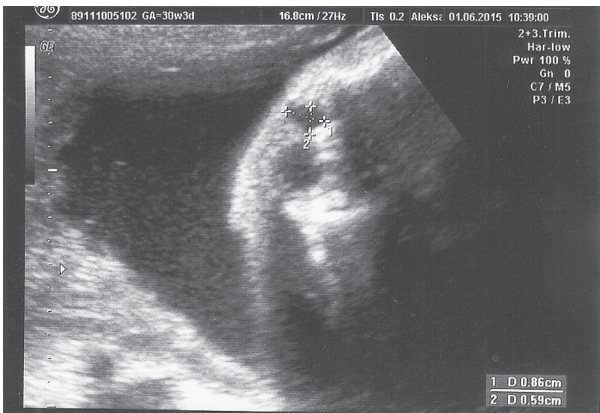


Figure 2. Two-dimensional ultrasound scan at 30 weeks of gestation showing the fetal face with dacryocystocele below and medial to the fetal right eye in horizontal plain



Figure 3. Three dimensional ultrasound scan of the fetal face with dacryocystocele in the 34th week of gestation



Figure 4. Postnatal photograph of the baby without any sign of the dacryocystocele diagnosed prenatally

Discussion and conclusions

Canalisation of the lacrimal duct progresses in the second half of pregnancy and it is not complete by the 32nd week of gestation. The impatency of the duct caused by a thin membrane may lead to an obstruction and development of the dacryocystocele or cysts of nasolacrimal duct in even 30% of infants [2]. Sonographically, the dacryocystocele may be anechoic or contain low-level echoes. The location is typical in the periorbital region – lower and medial to the orbit. The lesion does not displace the globe. This characteristic helps us in differential diagnosis. Dacryocystocele is clinically rather insignificant, this it must be properly differentiated from other more severe masses, such as: abnormalities of the CNS, hemangiomas, benign or malignant neoplasms [4, 5]. In this case the location, time of presentation, echogenicity, lack of vascularity and lack of the influence on the globe enable the immediate proper diagnosis. The knowledge of the natural history of the dacryocystocele shows that it is not usually present before week 30 and it may spontaneously resolve postnatally or in utero [5]. The ultrasound is the most often used non-invasive diagnostic tool in the prenatal diagnosis. Following the Polish Gynaecological Society recommendations, which are the same as world standards concerning prenatal ultrasonography, the ultrasound examination should be performed at least 3 to 4 times in the physiological pregnancy without any complications. Any abnormal finding seen in the ultrasound scan requires us to repeat the examination in order to establish the diagnosis, and to enable monitoring the pathology and deciding the way of treatment and methods of the delivery. It is important to highlight that every ultrasound scan performed in pregnancy should be done by the specialist in prenatal ultrasonography following the rules and standards described by the experts. The normal scan in the first and second trimester do not release doctors from performing the examination in the third trimester and before labour. In the prenatal diagnosis good communication

and cooperation with the parents of the fetus is very important. The doctors performing the scan should in the easiest way explain all of the findings and possible scenarios of the pre and postnatal period. They should not scare parents, but try to calm their emotions. In the presented case common spontaneous disappearance of the dacryocystocele in the utero or in short time after delivery should be emphasised in the information given to the parents to avoid unnecessary anxiety concerning the diagnosed congenital malformation of the baby.

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