

What is Your Diagnosis?



Answer

Fetal cholelithiasis is a rare finding with controversial clinical significance. Although recent advances in fetal ultrasonography have allowed these cases to be diagnosed prenatally, little is known about the natural history and clinical significance of fetal gallstones (1-3).

Fetal gallstones are rare conditions and the prevalence of fetal gallstones is unknown. Although, echogenic foci or formation of fetal calculi in the gall bladder are uncommon in pediatric patients, the lesions associated with these conditions are well established and the incidence is reported as 1.5% in the first year of life (4). The incidence and predisposing factors known for postnatal life seems not to be applicable to prenatal diagnosis. Fetal gallstones are a rare condition, and only a few cases have been described in the literature.

Kiserud et al. reported a list of predisposing factor associated with echogenic fetal gallbladder including chromosomal aberrations, cardiac malformations, gastroschisis and intrauterine growth restriction, influence of prostaglandin and possibly prenatal leukomoid reaction (2). However, in our case, and in those described by others, no common etiological factor was found (2, 3, 5). The only common factor, in a case in the literature was reported as echogenic foci in the gall bladder as a third trimester phenomenon (3, 5, 6). It was emphasized that, the production, composition and mode of transportation of bile in the biliary tract permits the formation of any echogenic condensation after 28 weeks of pregnancy.

A 28-year-old woman, gravida 1, para 0, was followed in our clinic for routine obstetric examinations. There was no history of maternal administration of drugs or family disease. Detailed ultrasonography at 20-22 weeks had demonstrated a live singleton fetus with no apparent structural abnormalities and normal morphological development. However, at 36 weeks of gestation, ultrasound examination showed that the gallbladder was filled with multiple small echogenic foci (Figure 1, arrows). No other abnormality or evidence of fetal ascites or hydrops was detected. At 39 week of gestation, a 3900 gram female fetus was delivered by cesarean section. During the first days of delivery, the newborn was examined and an abdominal scan was performed. Abdominal scan confirmed multiple gallstones with no other abnormalities (Figure 2). At 2 days of age, transverse sections through the abdomen showed multiple echogenic foci in the gallbladder (Figure 2). Neonatal abdominal ultrasound scan was repeated during the first month after birth and complete spontaneous resolution was observed.

The effect of fetal gender on the formation of gallstones is not clear. Although we reported a female fetus with no predisposing factor, greater numbers of cases reported in the literature were male (1-3). However, no clear explanation could be sug-



gested regarding this association (2). We suggested that due to the scarcity of cases found and the fact that underlying etiological reasons could not be found, the fetal gender may not be associated with gallstones.

In conclusion, fetal gallstones may be seen during the third trimester with no predisposing factors. It may be a benign phenomenon and can resolve spontaneously.

Özlem Pata¹, Melih Gündüz², Cihat Ünlü²

¹Department of Obstetrics and Gynecology, Faculty of Medicine, Acibadem University, Istanbul, Turkey

²Acibadem Health Group, Acibadem Bakırköy Hospital Istanbul, Turkey

References

1. Brown DL, Teele RL, Doubilet PM, DiSalvo DN, Benson CB, Van Alstyne GA. Echogenic material in the fetal gallbladder: sonographic and clinical observations. *Radiology*. 1992; 182: 73-6.
2. Kiserud T, Gjelland K, Bognø H, Waardal M, Reigstad H, Rosendahl K. *Ultrasound Obstet Gynecol*. 1997; 10: 103-6.
3. Suma V, Marini A, Bucci N, Toffolutti T, Talenti E. Fetal gallstones: sonographic and clinical observations. *Ultrasound Obstet Gynecol*. 1998; 12: 439-41.
4. Henschke C, Teele LR. Cholelithiasis in children: recent observations. *J Ultrasound Med* 1983; 2: 481-4.
5. Sheiner E, Abramowicz JS, Hershkovitz R. Fetal gallstones detected by routine third trimester ultrasound. *Int. J. Gynecol Obstet*. 2006; 92: 255-6.
6. Stringer MD, Lim P, Cave M, Martinez D, Lilford LJ. Fetal gallstones. *J. Pediatr. Surg*. 1996; 31: 1589-91.