PERINATAL JOURNAL

Letter to the Editor
Perinatal Journal 2015;23(1):70–71

Letter to the Editor regarding "Extrauterine intrapartum treatment procedure in the unilateral advanced fetal hydrothorax case"

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This letter has been written for the aspects to criticize for the EXIT procedure in the case report of unilateral advanced fetal hydrothorax case published in Perinatal Journal.[1] Although various treatment and management recommendations and studies have been provided for fetal hydrothorax in the literature, better results are obtained by using improved fetal treatment methods.

If hydrothorax develops before 27 weeks of gestation, pulmonary development is affected and cardiac failure and intrauterine loss may occur associated with cardiac and central vein pressure.[2] Besides, isolated fetal hydrothorax developing at late second trimester and third trimester may not cause hypoplasia.[3] Poor prognostic factors are bilateral effusion development, nonregression of effusion spontaneously, hydrops and prematurity.[4]

The type of treatment during prenatal period is determined primarily according yo the severity of effusion and diagnosis week of gestation. Conservative management may be preferred since spontaneous regression may develop in the presence of mild-mid unilateral pleural effusion not causing mediastinal shift and hydrops and not accompanied by polyhydramnios.[5,6] If rapid increase in effusion, hydrops or polyhydramnios development is observed during the follow-up, invasive fetal treatment should be performed by using thoracoamniotic shunt. When thoracoamniotic shunt procedure is significant especially before 36 weeks of gestation, thoracentesis or thoracoamniotic shunt can be preferred in further weeks of gestation. Thoracoamniotic shunt should be preferred primarily in the presence of severe pleural effusion where mediastinal shift is accompanied by hydrops or polyhydramnios.[5,7,8] Direct shunt application should also be considered in hydropic fetuses with bilateral effusion.[9] Nicolaides and Azar reached 50% survival rate in hydrothorax cases with non-immune hydrops by applying thoracoamniotic shunt.[10]

Decompression of effusion fluid by thoracentesis allows normal pulmonary development to continue, also may fix hydrops and polyhydramnios.[11] It also helps to diagnose for the etiology of hyrops and pleural effusion.[6,12] However, since fluid is accumulated rapidly in 24–48 hours in the most of the cases, thoracoamniotic shunt should be preferred especially in the cases detected in the early second trimester.[8,13] On the other hand, while some authors prefer thoracentesis in the initial treatment, they apply thoracoamniotic shunt in case of reaccumulation of pleural effusion.[13] It may not be always possible to apply thoracoamniotic shunt due to the inappropriate fetal position and increased fetal skin edema. Transplacental application during the procedure is not preferred for thoracoamniotic shunt.[6] In such cases where thoracoamniotic shunt cannot be applied, multiple thoracentesis, conservative follow-up of hydropic fetus or early labor of fetus are other possible treatment options.[13]

Since prematurity is a poor prognostic factor affecting survival, it is recommended to carry out the delivery

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Received: February 24, 2015; **Accepted:** February 24, 2015
Please cite this article as: Kaya B, Gedikbaşı A. Letter to the Editor regarding "Extrauterine intrapartum treatment procedure in the unilateral advanced fetal hydrothorax case". Perinatal Journal 2015;23(1):70–71.

Available online at:
www.perinataljournal.com/20150231014
doi:10.2399/prn.15.0231014
QR (Quick Response) Code:

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in tertiary centers at 37-38 weeks of gestation.[5] It is reported that draining mid-severe pleural effusion just before the delivery helps neonatal resuscitation and ventilation support.[5,6] However, Klam et al. found no difference between those applied thoracentesis just before the delivery and postpartum practices in terms of Apgar score, entubation and ventilation requirements and survival rates.[8]

In the case presented, it is seen that thoracentesis was applied to investigate the etiology of pleural effusion at 36 weeks of gestation and to treat the case. In this case, in the presence of appropriate fetal position, thoracoamniotic shunt treatment could be planned if transplacental transition was not required technically.

Extrauterine intrapartum treatment (EXIT) can be useful in cases which are near term or at term with severe pleural effusion where intrauterine drainage failed. Prontera et al. who defined EXIT procedure for the first time due to fetal hydrothorax carried out this procedure in a case which had bilateral severe pleural effusion, increased central venous pressure findings, cardiac diastolic function disorder and with lungs completely collapsed and echogenic. Fetal thoracentesis could not be applied due to polyhydramnios and fetal position, and postnatal drainage was not preferred due to the presence of bilateral and severe pleural effusion and the concern of postnatal long and severe hypoxia. Therefore, thoracentesis and EXIT procedure were preferred as the least complicated methods.[2]

When patients who were applied EXIT procedure and other cases delivered by cesarean section were compared in terms of maternal complications, wound site complications and estimated blood loss were more in cases who were applied EXIT procedure.[14]

As congenital fetal hydrothorax is a rare clinical condition with limited number of case reports in the literature, there are disputes about the treatment options and most suitable delivery time. First of all, it is required to refer such cases to tertiary centers and to plan treatment and delivery in such centers. The treatment should be planned according to the characteristics and clinical condition of current case, the experience of the team which will carry out invasive procedure, and the suitability of technical conditions.

Conflicts of Interest: No conflicts declared.

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