Placenta Mesenchymal Dysplasia, After Successful Management Of Infertility

M M Hamodat, E A Alkuwari, A K Tawfek

Citation

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Abstract

A 23 year old Qatari female was followed for infertility for two years in the IVF unit in woman hospital in Doha, Hamad Medical Corporation, Qatar. After two years of medical follow up and treatment, IVF was tried and the patient got pregnant. Follow-up during pregnancy continued and the pregnancy ended by full term live born boy. Histological examination of a placentomegally showed placental mesenchymal dysplasia. Herein, we represent this interesting case of infertility managed by IVF, which was associated with placental mesenchymal dysplasia, with review of literatures.

CASE STUDY

A 23 year old primigravida Qatari, who had a history of infertility for two years. Full medical and gynecological follow up of the patient showed that the patient had a high prolactin level. MRI was performed and showed slight enlargement of the right lobe of the pituitary. Her thyroid function test was normal and she was slightly anemic. IVF was successfully tried with this patient and resulted in pregnancy. An Array comparative genomic hybridization (aCGH) done and the result was a normal microarray, male "arr (1-22) x2, (XY) x1". The obstetric ultrasound showed single cephalic fetus of 37 gestational weeks weighing 2904 grams with normal heart beat and fetal movements. The patient delivered a live male baby. Histopathology of the placenta showed placentomegally of 935 grams with obvious vesicles on the surface. Histology revealed placental mesenchymal dysplasia.

Figure 1

Placenta, gross, 935 grams placenta with obvious vesicles and dilated blood vessels.

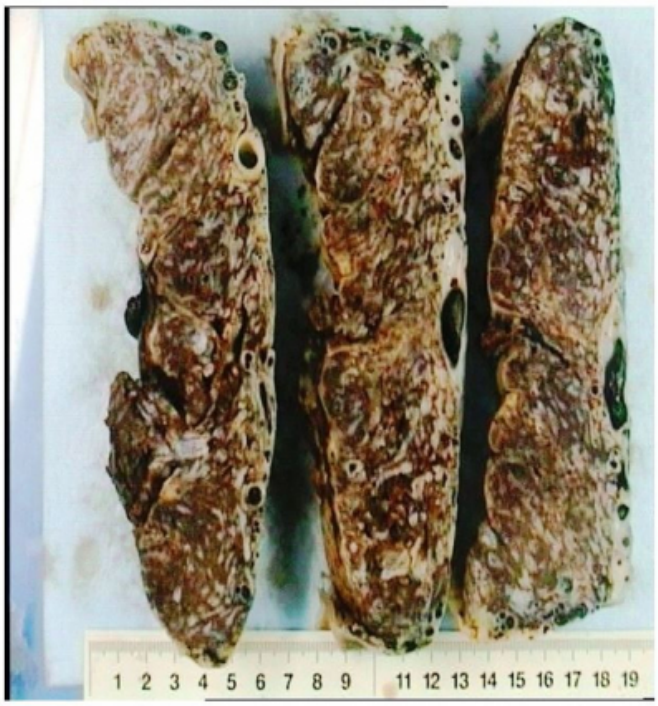


Figure 2a Placenta, histopathology.
Edematous villi, central cistern, thick walled blood vessels and normal appearing tertiary villi

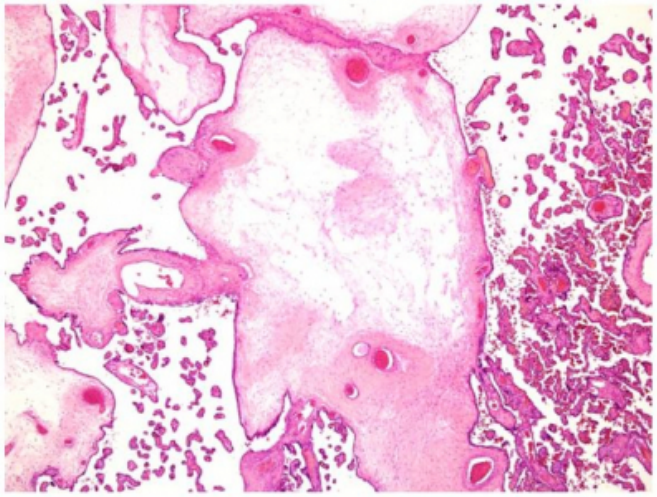
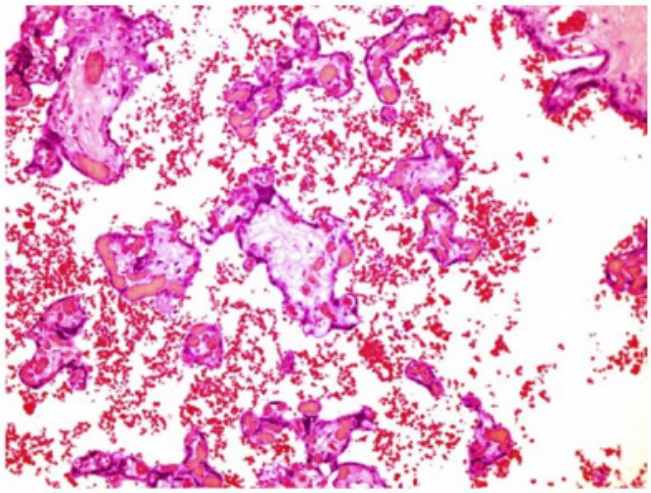


Figure 2b Placenta, histopathology.
Tertiary villi, absence of trophoblastic proliferation.



DISCUSSION

A 23 year old primigravida, presented with history of infertility for two years. A successful IVF ended with a newborn live male baby at 37 weeks of gestation. Follow up during pregnancy included a Doppler Ultrasound study which revealed a single cephalic fetus with normally recorded heart beat and movement. The fetal growth was within normal limit. Doppler study of the umbilical artery showed normal waveform and indices. The pregnancy ended by the delivery of a live normal male baby of 2500 grams. This finding is also in support to what Gizzo, S et al confirmed for the association of PMD with normal fetal morphology and good maternal – fetal outcome if a correct diagnosis of this disease was made early in the pregnancy.(1)

This is in contrast to a report of PMD, associated with congenital anomalies, like the case reported by Agarwal et al who noticed the association of PMD with baby with omphalocele. (2), (3)

Having said that, the outcome of pregnancy with PMD is not always with a positive outcome. Umazume T, et al and his colleagues reported a case of PMD that ended with intra uterine sudden death of the fetus with rupture of the periumbilical chorionic blood vessels. (4). In addition cases of PMD were well known to be associated with intrauterine growth restriction, this fact is documented by Heazell AE et al. (5)

The etiology of placental mesenchymal dysplasia is unknown, however, Kotani, T et at found an association between the occurrence of placental mesenchymal dysplasia and elevated levels of VGF-D. He stressed on the fact, that further studies are needed to substantiate this finding. (6). Heazell AE et al hypothesized that an abnormal lymphangiogeneis is behind the etiology of PMD by the finding of a positive immunostain for lymphatic endothelium in a case of PMD. (5).

Mack-Detlefsen B, and his colleagues reported a case of PMD associated in a preterm born baby with multiple hepatic mesenchymal hamartoma (7)

The incidence of PMD is very low , and the largest study done to evaluate this fact was carried by Zeng X et al who examined 95000 placentas from women delivered during the period of 1991- 2009 . He found only two cases of PMD among these normal deliveries with an incidence of 0.02 in 1000 deliveries to reflect the fact of low incidence of such disease process(8)

Grossly, our case has a placentomegally of 935 grams, this is in concordance with the finding of Rohilla M, et al who reported a case of PMD of 1.7kg, ended by the delivery of morphologically normal female baby.(9)

Histological examination of the placenta showed placentomegally of 935 grams with visible vesicles grossly. This raises the importance of including hydatiform mole in the differential diagnosis of such cases. (10). Histologically PMD can be differentiated from hydatiform mole by the absence of fetus in hydatidiform mole and its presence in PMD. Microscopically PMD is characterized by the presence of large edematous villi with cistern formation interspersed with normal villi. The absence of trophoblastic proliferation and trophoblastic inclusions differentiates it

from molar pregnancy. (11)

CONCLUSION

Placental mesenchymal dysplasia is a rare condition that may raise the suspicion of hydatidiform mole especially when ultrasound study shows cystic placenta. Attention should be taken not to terminate such pregnancies, taking in consideration that good percentages of them may end with normal fetus like in our case scenario.

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