European Journal of Obstetrics & Gynecology and Reproductive Biology xxx (2019) xxx–xxx

Contents lists available at ScienceDirect

European Journal of Obstetrics & Gynecology and Reproductive Biology

journal homepage: www.elsevier.com/locate/ejogrb

A case of 20-week abortion in a rare communicating rudimentary horn of a misinterpreted unicornuate uterus, incorrectly diagnosed as bicornuate: A serious hazard!

Luigi Della Corte[a,*], Annamaria Fabozzi[b], Pierluigi Giampaolino[b], Gabriele Saccone[a], Laura Micol Pizzuti[c], Valeria Romeo[d], Simone Maurea[d], Giuseppe Bifulco[a]

[a] Department of Neuroscience, Reproductive Sciences and Dentistry, School of Medicine, University of Naples Federico II, Naples, Italy
[b] Department of Public Health, University of Naples Federico II, Naples, Italy
[c] Istituto di Biostrutture e Bioimmagini (IBB-CNR), Naples, Italy
[d] Department of Advanced Biomedical Sciences, University of Naples Federico II, Naples, Italy

ARTICLE INFO

Article history:
Received 29 December 2018
Received in revised form 30 January 2019
Accepted 17 February 2019
Available online xxx

Keywords:
Communicating rudimentary horn
Magnetic resonance imaging
Laparotomy
Second-trimester abortion
Uterine malformation

ABSTRACT

Female genital malformations, as the unicornuate uterus, are deviations from normal anatomy that could impair the reproductive potential of a woman or her health. We present a rare case of a 20-week spontaneous abortion in a 24 years old patient affected by a misunderstood unicornuate uterus with communicating rudimentary horn, previously diagnosed as bicornuate, and for this reason subjected to induction of abortive labor, using mifepristone and gemeprost. Following the ultrasound exam and MRI, performed due to the failure of the abortive procedure, revealed the diagnosis of unicornuate uterus with (not clear) communicating accessory horn pregnancy, then treated with laparotomy. 3D-ultrasonography, and above all MRI, should be performed in all those cases of suspected uterine anomalies, especially in presence of pregnancy or abortion, with the aim of avoiding wrong treatments, which leads to a high risk of uterine rupture. In this case, given the uncertainty of imaging exams performed in such an advanced second trimester of pregnancy, only the surgical approach was able to discover the real communication.

Dear Editor,

Female genital malformations, as the unicornuate uterus, are deviations from normal anatomy that could impair the reproductive potential of a woman or, in complex cases, woman's health [1]. The incidence of rudimentary horn pregnancy is reported to be one in 76,000 pregnancies [2], and in 75–83% of cases the pregnancy develops in non-communicating rudimentary horn [3].

Here, we present a rare case of a 20-week spontaneous abortion in a 24 years old patient affected by a *misunderstood* unicornuate uterus with communicating rudimentary horn, previously diagnosed as bicornuate, and its clinical and surgical management.

A 24-year-old woman, primigravida at 20 weeks of gestation, was admitted to our hospital with the diagnosis of abortion. She reported having received diagnosis of bicornuate uterus about 1 year before, both by 3D-transvaginal ultrasound and hysteroscopy, performed by her gynecologist from whom relative documentation was provided. At admission, an office ultrasound was performed, confirming the presence of two horns, in one of them a dead fetus with 20 weeks biometry was found. At vaginal examination the presence of a single cervix was determined and no vaginal bleeding was observed. Parameters were normal; therefore, according to the protocol of our Department, pharmocological induction of abortive labor was undertaken with Mifepristone 600 mg per os, followed by vaginal administration of gemeprost, one vaginal suppository every three hours for a total number of 5 suppositories. Despite the onset of uterine contractions, the cervix was still unaltered. Due to failure of induction, doubt arose concerning the type of uterine malformation. Our skilled sonographer performed a 3D ultrasound examination using a Foley catheter placed in the cervix, with the aim of assessing the real communication between the uterus and the horn containing the pregnancy. Ultrasound scans suggested a continuity between cervical canal and the right, empty hemiutero, with a thickened endometrium as a decidual reaction. The pregnancy appeared in the other horn without communication with the cervix. The patient's condition was stable and there were

* Corresponding author at: Department of Neuroscience, Reproductive Sciences and Dentistry, School of Medicine, University of Naples "Federico II", Via Pansini 5, Naples, Italy.
E-mail address: dellacorte.luigi25@gmail.com (L. Della Corte).

https://doi.org/10.1016/j.ejogrb.2019.02.018
0301-2115/© 2019 Published by Elsevier B.V.

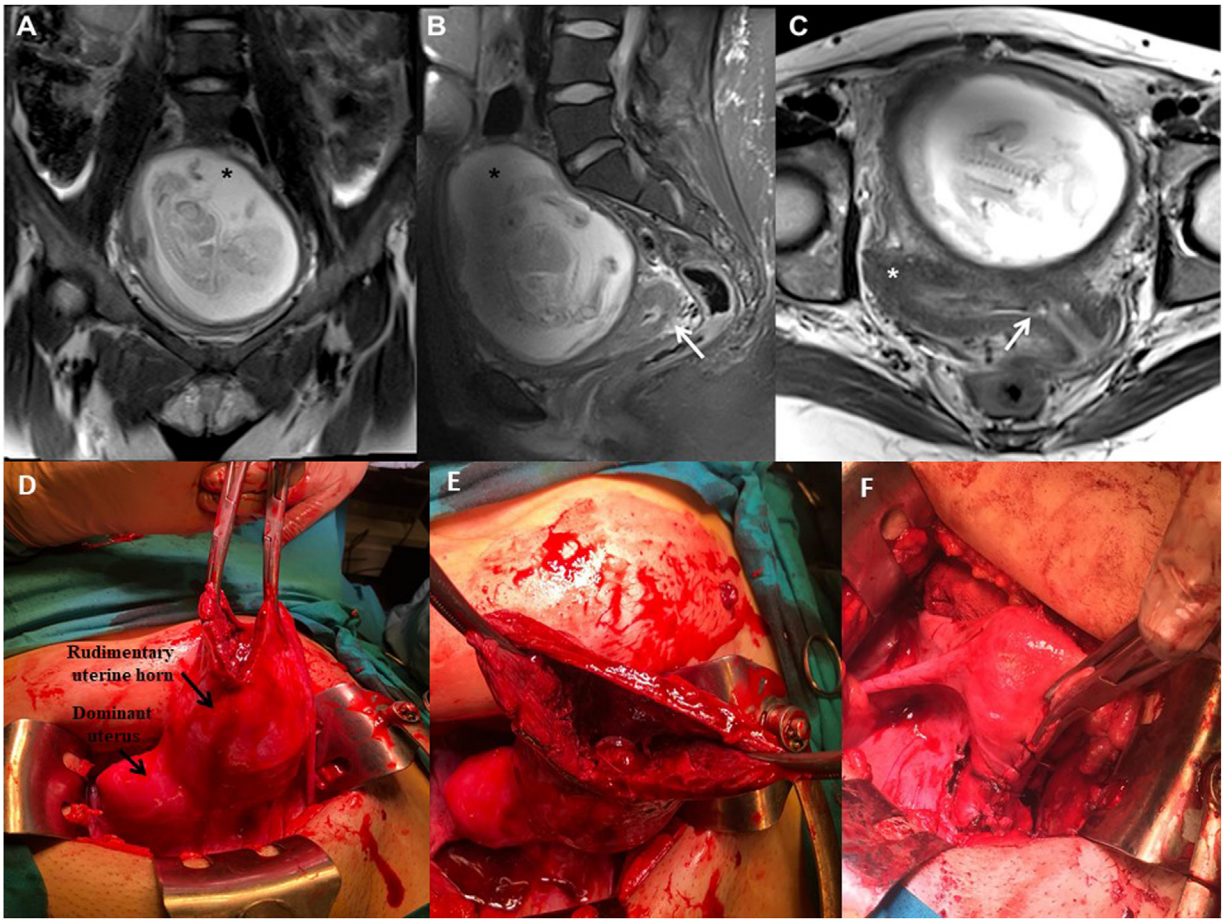

Fig. 1. A–C. Coronal TSE T2-weighted (A), sagittal TSE T2-weighted with fat suppression (B). On the axial TSE T2-weighted (C) images. A rudimentary horn containing a 20-weeks dead fetus is detectable (black asterisks in A and B); the dominant uterus is posteriorly located (white arrow in B). On axial plane (C), a clear communication with the cervical canal (white arrow) is detectable only for the dominant uterus (white asterisk). D. The rudimentary uterine horn with pregnancy inside. E. Top view of rudimentary uterine horn without pregnancy. F. The dominant uterus after the removal of rudimentary uterine horn and the suture of the left side-wall.

no ultrasound or clinical signs of uterine rupture. Magnetic resonance imaging (MRI) examination without contrast agent injection confirmed the presence of two uterine horns of which one, anteriorly located and containing a dead fetus, did not demonstrate a clear communication with the cervical canal (Fig. 1A–C). A diagnostic laparoscopy was carried out and it showed a big rudimentary uterine horn with pregnancy inside. For this reason, we decided on a laparotomic approach (Fig. 1D–F): the rudimentary horn was excised and the left round ligament was sutured to the uterus restoring the uterine anatomy. After the removal of the rudimentary horn, a small communication was surprisingly identified with the isthmus of dominant uterus, that was soon sutured. The dominant uterus was suspended at the left round ligament and the abdomen closed following hemostasis. The patient was discharged in a satisfactory condition on the fifth day after kidney anomalies were ruled out.

A unicornuate uterus communicating with the contralateral uterine cavity is a Class IVa anomaly according to ESHRE/ESGE Consensus [2]. It accounts for 2.4 e 13% of Mullerian anomalies. A solitary uterine horn can be observed in up to 35% of patients [4]. In 66% of cases there is no communication between the rudimentary horn and primary horn.

Horn rupture occurs in 80–90% of these pregnancies during the second trimester and 10% of the pregnancies proceed to term, but only 2% reach fetal survival. An early diagnosis and a proper management are mandatory.

Tsafrir et al. suggest criteria for the early diagnosis of rudimentary horn pregnancy: (1) pseudo pattern of an asymmetrical bicornuate uterus (2) absent visual continuity between the cervical canal and the lumen of the pregnant horn, and (3) the presence of myometrial tissue surrounding the gestational sac [5].

The transvaginal ultrasonography detection rate could dends to displace the contralateral half of the uterus, making it difficult to demonstrate uterine anomaly. MRI has become the gold standard for the evaluation of congenital uterine anomalies.

The management consists of excision of the pregnant rudimentary horn and ipsilateral fallopian tube, traditionally by laparotomy.

In this case of an ongoing abortion in the late second trimester, only laparotomy was able to detect the clear communication between the unilateral uterus and the contralateral uterine cavity. Nevertheless, 3D-ultrasonography, and above all MRI, should be performed early in all cases of suspected uterine anomalies, especially in the presence of pregnancy or abortion, with the aim of avoiding erroneous treatments, leading to a high risk of uterine rupture, fetal death and/or maternal morbidity and serious hazard.

Conflict of interest

The authors declare that they have nothing to disclose.

Please cite this article in press as: L. Della Corte, et al., A case of 20-week abortion in a rare communicating rudimentary horn of a misinterpreted unicornuate uterus, incorrectly diagnosed as bicornuate: A serious hazard!, Eur J Obstet Gynecol (2019), https://doi.org/10.1016/j.ejogrb.2019.02.018

Financial support

No financial support was received for this study.

References

[1] Rock JA, Roberts CP, Jones Jr. HW. Congenital anomalies of the uterine cervix: lessons from 30 cases managed clinically by a common protocol. Fertil Steril 2010;94(October (5)):1858–63.

[2] Grimbizis GF, Gordts S, Di Spiezio Sardo A, Brucker S, De Angelis C, Gergolet M, et al. The ESHRE/ESGE consensus on the classification of female genital tract congenital anomalies. Hum Reprod 2013;28(August (8)):2032–44.

[3] Johansen K. Pregnancy in a rudimentary horn. Obstet Gynecol 1983;61:565e7.

[4] Olpin JD, Moeni A, Willmore RJ, Heilbrun ME. MR imaging of Müllerian fusion anomalies. Magn Reson Imaging Clin N Am 2017;25(August (3)):563–75.

[5] Tsafrir A, Rojansky N, Sela HY, Gomori JM, Nadjari M. Rudimentary horn pregnancy: first-trimester prerupture sonographic diagnosis and confirmation by magnetic resonance imaging. J Ultrasound Med 2005;24(February (2)):219–23.

Please cite this article in press as: L. Della Corte, et al., A case of 20-week abortion in a rare communicating rudimentary horn of a misinterpreted unicornuate uterus, incorrectly diagnosed as bicornuate: A serious hazard!, Eur J Obstet Gynecol (2019), https://doi.org/10.1016/j.ejogrb.2019.02.018