

Incidental Finding Of Hyperreactio Luteinalis during Caesarean Section in Twin Pregnancy

Sabolovic-Rudman, Senka; Omazic, Ante; Djakovic, Ivka; Soljacic-Vranes, Hrvojka; Kosec, Vesna

Source / Izvornik: **Open Access Macedonian Journal of Medical Sciences, 2018, 6, 2139 - 2141**

Journal article, Published version

Rad u časopisu, Objavljena verzija rada (izdavačev PDF)

<https://doi.org/10.3889/oamjms.2018.466>

Permanent link / Trajna poveznica: <https://urn.nsk.hr/urn:nbn:hr:220:556366>

Rights / Prava: [In copyright](#) / [Zaštićeno autorskim pravom.](#)

Download date / Datum preuzimanja: **2025-01-23**



Repository / Repozitorij:

[Repository of the Sestre milosrdnice University Hospital Center - KBCSM Repository](#)

Incidental Finding Of Hyperreactio Luteinalis during Caesarean Section in Twin Pregnancy

Senka Sabolovic-Rudman, Ante Omazic*, Ivka Djakovic, Hrvojka Soljagic-Vranes, Vesna Kosec

Clinical Department of Gynecology and Obstetrics, Sestre Milosrdnice University Hospital Center, Zagreb, Croatia

Abstract

Citation: Sabolovic-Rudman S, Omazic A, Djakovic I, Soljagic-Vranes H, Kosec V. Incidental Finding Of Hyperreactio Luteinalis during Caesarean Section in Twin Pregnancy. Open Access Maced J Med Sci. 2018 Nov 25; 6(11):2139-2141.
<https://doi.org/10.3889/oamjms.2018.466>

Keywords: Hyperreactio Luteinalis; Twin Pregnancy; Caesarean Section

***Correspondence:** Ante Omazic. Clinical Department of Gynecology and Obstetrics, Sestre Milosrdnice University Hospital Center, Zagreb, Croatia. E-mail: dr.ante.omazic@gmail.com

Received: 25-Aug-2018; **Revised:** 28-Oct-2018; **Accepted:** 30-Oct-2018; **Online first:** 20-Nov-2018

Copyright: © 2018 Senka Sabolovic-Rudman, Ante Omazic, Ivka Djakovic, Hrvojka Soljagic-Vranes, Vesna Kosec. This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0)

Funding: This research did not receive any financial support

Competing Interests: The authors have declared that no competing interests exist

BACKGROUND: Some benign changes of the ovaries like hyper reaction luteinalis sometimes cannot be differentiated from malignant ones without histological examination. In these cases, surgical intervention sometimes cannot be avoided. Hyperreactio luteinalis is a condition that can occur only in pregnancy. It is characterised by bilateral benign multicystic ovarian enlargement.

CASE REPORT: We present a case of misleading intraoperative findings during Cesarean section that ended with ovariectomy.

CONCLUSION: During the Caesarean section, some benign masses of the ovaries, like hyper reaction luteinalis, are difficult to differentiate from malignant disease without histological examination, requiring surgical intervention.

Introduction

Hyperreactio luteinalis (HL) is a condition that can occur only in pregnancy. It is characterised by bilateral benign multicystic ovarian enlargement. The exact aetiology is unclear but high B-hCG or B-hCG – hypersensitivity is possible causes. It is very rare [1] [2]. Treatment is non-surgical, but sometimes it requires emergency surgery in case of ovarian torsion or haemorrhage [3].

We present a case of misleading intraoperative findings during Cesarean section that ended with ovariectomy.

Case Report

A 27-year-old patient in her first twin pregnancy was admitted to our department in the 31st

week of pregnancy for treatment of premature contractions. The pregnancy had been without complications to date and was followed up regularly. Standard laboratory tests were normal, and intravenous tocolysis was administered. Fetal ultrasound was normal, and a detailed ultrasound of the adnexa was not performed. The patient remained at our department up to her 33rd week of pregnancy, when her amniotic membrane ruptured spontaneously. The regular contraction started, and due to breech presentation of the first twin, delivery was performed by Caesarean section. The first twin was female, weighing 1780 g and 43 cm long, Apgar score 9/10. The second twin was male, weighing 1790 g and 44 cm long, Apgar score 9/10. During the Cesarean section surgery, multicystic and enlarged ovaries were identified, measuring 9 cm on the right and 8 cm on the left side (Figure 1 and 2). A frozen section biopsy of the right ovary was performed to rule out malignancy. This caused profuse haemorrhage that could not be controlled without ovariectomy. In the postoperative period, the patient had no complications. Histological examination of the right ovary revealed hyper reaction luteinalis. At ultrasound

examination, one-month post-surgery, the patient's left ovary was polyfollicular and measured 8 cm in diameter.



Figure 1: Intraoperative finding of right ovary

Discussion

Risk factors are multiple gestations, Rh sensitisation, twin to twin transfusion syndrome, gestational trophoblastic disease, hydropsfetalis, molar pregnancy, choriocarcinoma, polycystic ovaries, gestational diabetes, ovulation induction, clomiphene therapy, decreased the clearance of B-hCG due to renal dysfunction. The condition is most frequent in primiparas [4]. Hypothyroidism, PCOS, FSH secreting adenoma, or mutation in the FSH receptor can also lead to HL [5]. The genetic component in the development of the disease is excluded [1].



Figure 2: Intraoperative finding of left ovarii

Over 25% of cases of hyper reaction luteinalis are asymptomatic [6]. Symptoms are a low abdominal pain, nausea and vomiting, ascites, signs of virilisation, weight gain and shortness of breath[6].

Nausea and vomiting of pregnancy correlate positively with high levels of B-hCG [7]. Signs of virilisation are rare, occurring in only 30%of patients, mostly in their third trimester, and rarely in the second trimester [1], [2], [3], [4], [5], [6], [7], [8]. In our case, there were no clinical signs of maternal virilisation in pregnancy. Complications of this condition are preeclampsia, HELLP syndrome; fetal grow restriction, preterm delivery, torsion, dystocia and late onset of lactation in the post-delivery period. Remarkably high B-hCG levels might be predictive for preeclampsia as it may occur before 20 weeks' gestation [9]. Usually, it takes 2 months after childbirth for ovarian tissue to return to its normal size and ultrasonographic appearance [1]. Cases of virilized female fetuses are extremely rare [10], [11].

Diagnosis is mostly made by ultrasound, at a mean gestational age of 21.6 weeks with ovaries showing a characteristic "spoke-wheel" appearance. Finding of bilateral cysts, normal Doppler flow, and a lack of solid components differentiate HL from ovarian malignancies such as a borderline mucinous tumour of intestinal type [12], [13]. Laboratory findings may exhibit high levels of hCG, hyperandrogenism, and hyperthyroidism. The condition may be diagnosed incidentally during Cesarean sections and does not usually require any specific treatment. Adnexal masses can be identified in 0.3% of all cesarean deliveries, and most of them are incidental discoveries. In 96.7% of cases, the ovarian masses were characterized as benign, with only in 2.0% confirmed ovarian malignancies [14]. The rationale for surgical treatment is suspected malignancy, requiring histological evaluation through ovariectomy [15].

During the Caesarean section, some benign masses of the ovaries, like hyper reaction luteinalis, are difficult to differentiate from malignant disease without histological examination, requiring surgical intervention.

References

1. Malinowski AK, Sen J, Sermer M. Hyperreactio Luteinalis: Maternal and Fetal Effects. *J Obstet Gynaecol Can.* 2015; 37(8):715-23. [https://doi.org/10.1016/S1701-2163\(15\)30176-6](https://doi.org/10.1016/S1701-2163(15)30176-6)
2. Bishop LA, Patel S, Fries MH. A case of recurrent hyperreactio luteinalis in three spontaneous pregnancies. *Journal of Clinical Ultrasound.* 2016; 44(8):502-5. <https://doi.org/10.1002/jcu.22343> PMID:26892678
3. Cho Ah-Ra, et al. Vaginal delivery in a spontaneously conceived singleton pregnancy complicated with hyperreactio luteinalis: A case report. *Journal of Womens Medicine.* 2011; 4(2):53–56. <https://doi.org/10.5468/jwm.2011.4.2.53>
4. Skandhan AK, Ravi V. Hyperreactio luteinalis: an often mistaken diagnosis. *Indian J Radiol Imaging.* 2014; 24:84–6. <https://doi.org/10.4103/0971-3026.130711> PMID:24851012 PMCid:PMC4028923
5. Angioni S, Portoghese E, Milano F, Melis GB, Fulghesu AM.

- Hirsutism and hyperandrogenism associated with hyperreactio luteinalis in a singleton pregnancy: a case report. *Gynecol Endocrinol.* 2007; 23:248–51. <https://doi.org/10.1080/09513590701214513> PMID:17558681
6. Cavoretto P, Giorgione V, Sigismondi C, Mangili G, Serafini A, Dallagiovanna C, Candiani M. Hyperreactio luteinalis: timely diagnosis minimizes the risk of oophorectomy and alerts clinicians to the associated risk of placental insufficiency. *European Journal of Obstetrics & Gynecology and Reproductive Biology.* 2014; 176:10-6. <https://doi.org/10.1016/j.ejogrb.2014.02.017> PMID:24630301
7. Lee NM, Saha S. Nausea and vomiting of pregnancy. *Gastroenterol Clin North Am.* 2011; 40:309–334. <https://doi.org/10.1016/j.gtc.2011.03.009> PMID:21601782 PMID:PMC3676933
8. Angioni Stefano, et al. Hirsutism and hyperandrogenism associated with hyperreactio luteinalis in a singleton pregnancy: a case report. *Gynecological endocrinology.* 2007; 23(5):248–251. <https://doi.org/10.1080/09513590701214513> PMID:17558681
9. Mehmet Akif Sargin, Niyazi Tug, Ozgur Aydin Tosun, Murat Yassa, Evrim Bostanci. Theca lutein cysts and early onset severe preeclampsia. *Pan Afr Med J.* 2016; 24:141. PMID:27642479 PMID:PMC5012798
10. Masuyama H, Tateishi Y, Matsuda M, Hiramatsu Y. Hyperreactio luteinalis with both markedly elevated human chorionic gonadotropin levels and an imbalance of angiogenic factors subsequently developed severe early-onset preeclampsia. *Fertil Steril.* 2009; 92(393):e1–3. <https://doi.org/10.1016/j.fertnstert.2009.04.002>
11. Lynn KN, Steinkeler JA, Wilkins-Haug LE, Benson CB. Hyperreactio luteinalis (enlarged ovaries) during the second and third trimesters of pregnancy: common clinical associations. *J Ultrasound Med.* 2013; 32(7):1285-9. <https://doi.org/10.7863/ultra.32.7.1285> PMID:23804351
12. Simsek Y, et al. Severe preeclampsia and fetal virilization in a spontaneous singleton pregnancy complicated by hyperreactio luteinalis. *Eur Rev Med Pharmacol Sci.* 2012; 16(1):118–121. PMID:22338557
13. Van Holsbeke C, Amant F, Veldman J, De Boedt A, Moerman P, Timmerman D. Hyperreactio luteinalis in a spontaneously conceived singleton pregnancy. *Ultrasound Obstet Gynecol.* 2009; 33:371–373. <https://doi.org/10.1002/uog.6325> PMID:19248002
14. Lambers, D.S. and Rosenn, B. Hyperreactio luteinalis complicating a normal singleton pregnancy. *Am J Perinatol.* 1996; 13:491–494. <https://doi.org/10.1055/s-2007-994434> PMID:8989481
15. Baser E, Erkilinc S, Esin S, Togrul C, Biberoglu E, Karaca MZ, Gungor T, Danisman N. Adnexal masses encountered during cesarean delivery. *Int J Gynaecol Obstet.* 2013; 123(2):124-6. <https://doi.org/10.1016/j.ijgo.2013.06.015> PMID:24008309