J Cases Obstet Gynecol, 2016;3(4):125-127

Case Report

Nabothian cysts mimicking polycystic ovary in an infertile patient with poor ovarian reserve

Onur Ince[1,*], Ayse Ceren Duymus[1], Selviye Halksever Ozvatan[1], Mustafa Demir[2], Bulent Yilmaz[1,3]

[1]Tepecik Education and Research Hospital, Department of Obstetrics and Gynecology, In-vitro Fertilization Unit, Izmir, Turkey
[2]Harran University Faculty of Medicine, Department of Obstetrics and Gynecology, Sanliurfa, Turkey
[3]Izmir Katip Çelebi University, Faculty of Medicine, Department of Obstetrics and Gynecology, Izmir, Turkey

Abstract

The nabothian cysts which appear as anechoic structures around endocervical channel are generally considered to be relatively easy to diagnose with ultrasonography. Polycystic ovarian morphology is also considered to be easy to identify in ultrasonography examination with clear guidelines for diagnosis set by Rotterdam criteria. Despite these clear criteria and low likelihood that the two conditions will be confused, we present the cease of a 39-year-old infertile patient with nabothian cysts who was misdiagnosed as polycystic ovarian morphology

Key Words:

Infertility, poor ovarian reserve, nabothian cyst, polycystic ovary

Introduction

Nabothian cysts are cervical cysts that form when a fissure in columnar epithelium of cervix is covered by squamous epithelium and columnar epithelium secretes mucoid material. They can form at birth or as a result of a minor trauma. Except for reducing pain or feeling of fullness in the vagina, there is no indication for treatment and they are harmless [1]. They can easily be diagnosed in medical examination or by ultrasonography. In ultrasonography they typically appear as distinct anechoic cysts near endocervical canal [2]. Polycystic ovary syndrome (PCOS) is one of the most common causes of infertility in women [3]. For the diagnosis of PCOS; two out of three of the Rotterdam 2003 criteria should be satisfied [4]. One of these three criteria is the detection of polycystic ovarian morphology (PCOM) in ultrasonography. Consequently, the correct evaluation of PCOM is critical for the diagnosis of PCOS and subsequent treatment for fertility. In this report, we document the case of an infertile patient with low ovary reserve and a nabothian cyst that ultrasonographically mimics the appearance of multiple antral follicles in polycystic ovary.

Article History:
Received: 04/01/2016
Accepted: 14/03/2016

***Correspondence:** Onur Ince
Address: Tepecik Eğitim ve Araştırma Hastanesi, Kadın Hastalıkları ve Doğum Kliniği, Gaziler Cad. No:468/1 Yenişehir Konak, İzmir, Turkey
Tel: +90 232 4494949
E-mail: dr.onurince88@gmail.com

Case Presentation

A 39-year-old patient with primary infertility and seeking for pregnancy for 10 years applied to Tepecik Education and Research Hospital Obstetrics and Gynecology Department In-vitro Fertilization Unit outpatient clinic. She had no history of surgical operations and no particular is-

sues in her medical history. She stated that she had regular periods and described dysmenorrhea and dyspareunia. No pathology was identified in the pelvic evaluation on third day of menstruation. Moreover, uterus size and morphology were normal in transvaginal ultrasonography (TV-USG) and endometrium was 7 mm. In an earlier evaluation of the patient's TV-USG in another institution, the patient's ovaries were diagnosed as polycystic morphology. In the evaluation in our hospital, we first identified about 20 antral follicles in her right ovary and 3 antral follicles in her left ovary. However, after a more careful evaluation, 4 antral follicles in right ovary, 3 antral ovaries in left ovary and multiple nabothian cysts in cervix were identified. The patient had no treatment history for infertility and her basal blood hormone levels were reported as; follicle-stimulating hormone (FSH) = 4.42 mIU/ L, luteinizing hormone (LH) = 6.18 mIU/ L, estradiol (E2) = 277 pg/ml, thyroid-stimulating hormone (TSH) =1.3 mIU/L and anti-Müllerian hormone (AMH) = 0.34 ng/ml.

Figure 1.

The nabothian cyst that mimics about 20 antral follicles

Discussion

Nabothian cysts are benign cervical lesions that can easily be diagnosed by ultrasonography. The literature reports, however, that in ultrasonography they can be confused with benign lesions including endocervical hyperplasia and cervicitis as well as more problematic cervical ectopic pregnancy, adenocarcinoma or malign adenoma [5-7]. Even though the smooth edges and small size of nabothian cysts help distinguishing them from malignancies [8,9], there are also reported cases where they reach sizes of 2-4 cm and get confused with adnexal masses [10,11].

Figure 2.

Right ovary (Four antral follicles)

Polycystic ovarian morphology, an important criterion for diagnosis of polycystic ovary syndrome, is defined by international consensus criteria as either excessive size or follicle number (or both). Excessive follicle number itself is defined as the presence of 12 or more follicles with diameters ranging between 2 and 9 mm, and based on this definition the literature has adopted different threshold numbers ranging from 10 to 12 for the number of antral follicles in the maximum ovarian plane [12,13]. Due to the nabothian cysts in cervix that appeared as antral follicles in ultrasonography, the current case was initially wrongly diagnosed as polycystic ovary. As the levels of AMH and estradiol were consistent with poor

ovarian reserve, detailed reexamination of the uterine cervix using TVUSG revealed correct diagnosis that was nabothian cysts mimicking polycystic ovary. To the best of our knowledge, this is first case in the literature that reports nabothian cysts mimicking polycystic ovary. In conclusion, this case suggests that clinicians should be careful about potential misdiagnosis of nabothian cysts as polycystic ovary.

Acknowledgement
None

Declaration of Interest
None

Figure 3.

Left Ovary (Three antral follicles)

References

1. Goldstein DP, Laufer MR. Congenital cervical anomalies and benign cervical lesions. Uptodate.com Nov 2015.
2. Fogel SR, Slasky BS. Sonography of Nabothian cysts. AJR Am J Roentgenol. 1982;138:927-30.
3. Azziz R, Woods KS, Reyna R, et al. The prevalence and features of the polycystic ovary syndrome in an unselected population. J Clin Endocrinol Metab 2004; 89:2745.
4. Rotterdam ESHRE/ASRM-Sponsored PCOS consensus workshop group. Revised 2003 consensus on diagnostic criteria and long-term health risks related to polycystic ovary syndrome (PCOS). Hum Reprod 2004; 19:41.
5. Bin Park S, Lee JH, Lee YH, Song MJ, Choi HJ. Multilocular cystic lesions in the uterine cervix: broad spectrum of imaging features and pathologic correlation. AJR Am J Roentgenol. 2010;195:517-23.
6. Modayil V, Ash A, Raio C. Cervical ectopic pregnancy diagnosed by point-of-care emergency department ultrasound. J Emerg Med. 2011;41:655-7.
7. Yamashita Y, Takahashi M, Katabuchi H, Fukumatsu Y, Miyazaki K, Okamura H. Adenoma malignum: MR appearances mimicking nabothian cysts. AJR Am J Roentgenol. 1994;162:649-50.
8. De Graef M, Karam R, Juhan V, Daclin PY, Maubon AJ, Rouanet JP. High signals in the uterine cervix on T2-weighted MRI sequences. Eur Radiol 2003;13:118–126
9. Mayo-Smith WW, Lee MJ. MR imaging of the female pelvis. Clin Radiol 1995; 50:667–676
10. Janus C, Wagner L. Nabothian cysts stimulating an adnexal mass. Clin Imaging. 1989;13:157-8.
11. Togashi K1, Noma S, Ozasa H. CT and MR demonstration of nabothian cysts mimicking a cystic adnexal mass. J Comput Assist Tomogr. 1987;11:1091-2.
12. Rotterdam ESHRE/ASRM-Sponsored PCOS Consensus Workshop Group. Revised 2003 consensus on diagnostic criteria and long-term health risks related to polycystic ovary syndrome. Fertil Steril 2004; 81:19.
13. Balen AH, Laven JS, Tan SL, Dewailly D. Ultrasound assessment of the polycystic ovary: international consensus definitions. Hum Reprod Update 2003; 9:505.