

## Late Onset Menarche - A Rare Presentation of Bilateral Ovarian Dermoid Cysts: A Case Report

Sangwe Clovis N<sup>1,2,3</sup>, Bronhilda Tifuh T<sup>4,5,6</sup>, Awah Kenneth A<sup>7</sup>, Ariane Nouko<sup>4,6</sup>, Sr Mua Quinta<sup>1</sup> and Divine Tim Bonghaseh<sup>4,5,6\*</sup>

<sup>1</sup>Our Lady of Lourdes Catholic Hospital, Nkar, Cameroon

<sup>2</sup>Manoka District Hospital, Cameroon

<sup>3</sup>Rural Doctors, Cameroon

<sup>4</sup>Clinical Research Education Networking and Consultancy, Douala, Cameroon

<sup>5</sup>Health and Human Development Research Network (2HD), Douala, Cameroon

<sup>6</sup>Young Investigators Network, Cameroon

<sup>7</sup>District Hospital Mamfe, Cameroon

**\*Corresponding Author:** Divine Tim Bonghaseh, Clinical Research Education Networking and Consultancy, Douala, Cameroon.

**Received:** June 14, 2019; **Published:** August 20, 2019

### Abstract

**Introduction:** Ovarian dermoid cysts are the most common germ cell tumours of the ovaries and make up about two thirds of all ovarian tumours. They occur mostly in women between the second and fourth decades of life and usually present with non-specific symptoms including late onset menarche and menstrual cycle abnormalities.

**Case Presentation:** We present a 30-year old nulliparous female who presented with a history of late onset menarche at 21 years of age and irregular menstrual cycles. She was diagnosed of bilateral dermoid ovarian cysts which was confirmed by histopathology.

**Conclusion:** Mature teratoma is an important gynaecological morbidity whose prompt diagnosis and management can avert serious complications. We therefore present this case to raise physician's awareness on an uncommon presentation of a common gynaecological tumour.

**Keywords:** Bilateral Dermoid Cysts; Late Onset Menarche; Menstrual Abnormalities; Ovarian Tumour; Case Report

### Introduction

Ovarian dermoid cysts or mature teratomas are germ cell tumours composed of well differentiated derivatives of 3 germ layers; ectoderm, mesoderm and endoderm [1]. They are the most common germ cell tumours of the ovary and make up 20 to 30 % of all ovarian tumours [2]. They are mostly seen in women between 20 and 40 years of age and are usually unilateral but occur bilaterally in 10 to 15% of cases [3]. The mean growth rate is about 1.8 mm per year at the expense of normal ovarian tissue [4]. Infiltrative diseases are known to cause ovarian insufficiency [5] and this could explain why ovarian tumours are considered to be one of the rare causes of delayed menarche [6]. These tumours usually present with non-specific symptoms ranging from recurrent lower urinary tract symptoms, non-specific lower abdominal pain, menstrual cycle abnormalities, severe abdominal pain or even rupture of cysts causing a localized peritonitis [7-9]. Our aim therefore is to highlight this uncommon differential diagnosis of late onset menarche in order to increase awareness and prompt diagnosis and avert serious complications.

## Clinical Presentation

A 30-year old nulliparous female of black African descent (Cameroonian) with a history of late onset menarche at 21 years of age, presented at our health facility with a 9-year history of irregular menses. She had about 3 menstrual cycles in a year. Each menstrual flow lasted for 7 to 9 days with mild vaginal bleeding (2 mildly soaked pads in 24 hours). There was no dysmenorrhea. She also complained of recurrent lower abdominal pains which were unrelated to her menstrual flow but were sometimes associated with increased urinary frequency and nocturia. There was no fever, no notion of weight loss and no anorexia. She had been managed severally for cystitis with temporal relieve of her lower abdominal pains.

On physical Examination, she had a good general condition with a body mass index (BMI) of 23 kg/m<sup>2</sup>. Her conjunctivae were pink and sclerae anicteric. There were no palpable lymph nodes. She had facial hair with normal female pubic hair distribution. Breast development was at Tanner 5.

The abdomen was full, with no visible swelling on inspection. There was a palpable mass just above the suprapubic region. It was non-tender, soft and freely mobile. The lower border of the mass was not felt. Rectal examination was normal.

We had a working diagnosis of polycystic ovarian syndrome complicated by a recurrent urinary tract infection with a differential diagnosis of probable masculinizing tumour of the ovary.

A complete blood count (White cell count of 9,600 cells/mm<sup>3</sup>, haemoglobin level of 14 g/dl and platelet count of 248,000 cells/mm<sup>3</sup>) was done with normal results. A pelvic ultrasound revealed a right adnexa complex mass with hyper echogenic inclusions (7.8 cm X 6.5 cm) and a left adnexa complex mass with poorly defined borders, thick walled with sharp echogenic calculus (8.9 cm X 8.2 cm) (Figure 1). Urinalysis was positive for nitrites and leucocytes.



**Figure 1:** Ultrasound image of bilateral ovarian dermoid cyst.

Based on these findings we had a final diagnosis of bilateral ovarian dermoid cysts complicated by cystitis.

Consent was obtained from the patient and a laparotomy was done. Intra-operatively we found hypotrophic left and right ovarian tissue. We also found a left bi-lobed and right ovarian dermoid cyst. Bilateral ovarian cystectomy was done and histopathology confirmed the diagnosis of bilateral benign dermoid ovarian cyst (Figure 2 and 3).



**Figure 2:** Intra-operative finding: Bilateral ovarian Dermoid Cysts.



**Figure 3:** Left Ovarian Dermoid cyst showing hairs, fat and bony tissue.

### Discussion

The main clinical feature of this case report as depicted in the case presented is that ovarian tumours usually have a non-specific clinical presentation and may present as menstrual cycle abnormalities including delayed menarche. The American Academy of Paediatrics (AAP) and the American College of Obstetricians and gynaecologists (ACOG) defined delayed menarche as onset of menses from 16years of age [6]. Some authors suggest that the main causes of delayed menarche include eating disorders, excessive androgen secreting disorders such as polycystic ovary disease, outflow tract disorders such as vaginal agenesis or imperforate hymen and gonadal dysgenesis [10]. Our report highlights one of such rare cases with menarche at 21years of age.

Our patient also had an irregular menstrual cycle with just about 3cycles per year and very light menstrual flow. Some authors suggest that menstrual cycle irregularities in the first gynaecological year are normal [11]. In a systemic review by Gunn HM et al about 43% of women experience irregular menstrual bleeding in their first gynaecological year [11]. This probably explains why in her first gynaecological year she it was assumed to be normal to have such irregularities. Other causes of irregular menstrual cycle include primary ovarian insufficiency, eating disorders (anorexia nervosa, bulimia), excessive exercise, polycystic ovarian syndrome, thyroid dysfunction, elevated

prolactin level such as in breast feeding mothers, Cushing's syndrome, poor controlled diabetes, late onset congenital adrenal hyperplasia, hormonal birth control, and anti-epileptic and anti-psychotic drugs [12].

Just like in our case, non-specific lower abdominal pains have been reported in other cases of ovarian dermoid cyst [7]. Some authors had documented that adnexal masses could present as recurrent urinary symptoms without any other symptoms [13]. In our case, she was managed for recurrent urinary tract infection which suggested a possibility of an ovarian tumour.

Due to the poor socioeconomic status of our patient, hormonal titres or cancer markers were not investigated. Ultrasonography has been shown to be a reliable tool for the diagnosis of ovarian dermoid cysts. The presence of two or more of the following typical features is diagnostic of an ovarian dermoid cyst: fat-fluid level; hair-fluid level (a distinct linear demarcation seen); mesh or hair (accentuated lines and dots that represent hair in longitudinal and transverse planes) and tip of the iceberg sign (this sign is created by amorphous echogenic interfaces of fat, hair and tissues in focus in the foreground that shadow and thus obscure the structure behind [7,14]). Based on this we decided to run an ultrasound examination which was suggestive of a bilateral ovarian dermoid cyst (Figure 1). The diagnosis was confirmed by a histopathology report of the ovarian tissue.

The relevance of our case was to add a voice to the recommendations of AAP and ACOG, that menstrual cycle in adolescent girls should be used as an important vital sign to diagnose rare conditions that could completely alter the reproductive life of the patient [6]. Most cases of ovarian dermoid cysts are usually asymptomatic or present with non-specific symptoms. About 15% of cases present with menstrual abnormalities which could easily be missed [8]. We therefore suggest that bilateral ovarian dermoid cysts should be considered as a differential diagnosis in all adolescent girls with delayed menarche at 15 years of age with or without other symptoms. This is very important as prompt management will avert serious complications such as torsion, rupture (could lead to chemical peritonitis), and malignant transformation [7]. The AAP and ACOG recommend that menstrual cycle irregularities lasting greater than 90 days in patients less than 40 years of age should be considered pathological [6].

Our case also highlights the diagnostic challenges faced in a resource limited setting like our hospital where we could only perform an ultrasound as the only diagnostic workup. From this case it is logical to recommend the use of pelvic ultrasound as an important diagnostic step in patients less than 40 years of age who present with delayed menarche or irregular menstrual cycle of more than 90 days variation even in their first gynaecological year in sub-Saharan Africa.

### Conclusion

Menstrual cycle abnormalities are uncommon presentations of ovarian dermoid cysts and should be considered as a differential diagnosis in any female of reproductive age presenting with late onset menarche. Also, in resource limited settings with limited diagnostic facilities, a pelvic ultrasound should be a routine investigation for these patients.

### Declarations

**Ethical Approval:** Not applicable.

**Consent for Publication:** Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal

**Availability of Data and Material:** Not applicable.

### Conflict of Interest

None declared by the authors.

## Funding

No grants were received for this case report.

## Authors Contribution

SCN was involved in the management of the case, report conception, review of literature and manuscript write-up; BTT, AN, AK, MQ were involved in the literature review, report conception and critical review of the manuscript; TDB was involved in report conception, interpretation of case findings, review of literature and manuscript write-up

## Acknowledgement

The authors of this case report will like to thank the staff of Our Lady of Lourdes Catholic Hospital Nkar for their endless collaboration in successfully managing this patient. We also thank the patient for giving consent to publish this work and promote the dissemination of knowledge.

## Bibliography

1. Sah SP, *et al.* "Germ cell tumours of the ovary: A clinicopathological study of 121 cases from Nepal". *Journal of Obstetrics and Gynaecology* 30.4 (2004): 303-308.
2. Inkollu S, *et al.* "An unusual age presentation of mature cystic teratomas: A case report". *International Journal of Reproduction, Contraception, Obstetrics and Gynecology* 4.4 (2015): 1234-1236.
3. Ayhan A, *et al.* "Mature cystic teratomas of the ovary: Case series from one institution over 34years". *European Journal of Obstetrics and Gynecology and Reproductive Biology* 88.2 (2000): 153-157.
4. Caspi B, *et al.* "The growth pattern of ovarian dermoid cysts: a prospective study in premenopausal and postmenopausal women". *Fertility and Sterility* 68.3 (1997): 501-505.
5. Reindollar RH, *et al.* "Delayed Sexual Development: a study of 252 patients". *American Journal of Obstetrics and Gynecology* 140.4 (1981): 371-380.
6. Diaz A, *et al.* "Menstruation in girls and adolescents: using the menstrual cycle as a vital sign". *Paediatrics* 118.5 (2006): 2245-2250.
7. Mumin Mushtag, *et al.* "Bilateral Dermoid Ovarian Cyst in an adolescent girl". *BMJ Case Reports* (2014).
8. Comerci JT Jr, *et al.* "Mature cystic teratoma: A clinicopathological evaluation of 517cases and review of literature". *Obstetrics and Gynecology* 84.1 (1994): 22-28.
9. Givens V, *et al.* "Diagnosis and Management of Adnexal Masses". *American Family Physician* 80.8 (2009): 815-820.
10. McLean M, *et al.* "Abnormalities of Female Pubertal Development". In: De Groot LJ, Chrousos G, Dungan K, *et al.*, editors. Endotext [Internet]. South Dartmouth (MA): MDText.com Inc (2000).
11. Gunn HM, *et al.* "Menstrual pattern in the first gynaecological year: A systematic Review". *Journal of Pediatric and Adolescent Gynecology* 31.6 (2018): 557-565.
12. Sweet MG, *et al.* "Evaluation and management of abnormal uterine bleeding in premenopausal women". *American Family Physician* 85.1 (2012): 35-43.
13. Vanessa Givens, *et al.* "Diagnoses and management of adnexal masses". *American Family Physician* 80.8 (2009): 815-820.
14. Lauren K and Talat U. "Ultrasound of ovarian dermoids-sonographic findings of a dermoid cyst in a 41year-old woman with an elevated serum HCG". *Australasian Journal of Ultrasound in Medicine* 14.3 (2011): 19-21.

## Volume 2 Issue 6 September 2019

©All rights reserved by Divine Tim Bonghaseh, *et al.*