Floating "Boba Tea" Balls In An Ovary of the Child – An Unusual Presentation of Sertoli-Leydig Cell Tumor: A Case Report

Fareeha Nazar,[1*] Fatima Majid, [1] Farhana Zulfiqar

ABSTRACT

An 11-year old female presented in emergency with the diagnosis already made as torsion of right ovarian cyst. At laparotomy the ovarian cyst was found to contain multiple ball-like structures. Biopsy was reported as Sertoli-Leydig cell tumor.

Key words *Ovarian tumors, Ovarian cysts, Pre-pubertal girls, Sertoli-Leydig cell tumor, Boba tea balls.*

INTRODUCTION:

Adnexal masses are frequently reported in children. They are also easily picked up on antenatal ultrasound. Ovarian malignancies are however rare and account for 1-2% of all childhood malignant tumors.[1] Most common ovarian tumors are of germ cells origin. Teratomas are the most frequent germ cells tumors in pediatric population.[2]

Ovarian sex cord stromal tumors are rare in children.[3] The reported incidence varies in different series.[4] Of the sex cord-stromal tumors, Sertoli-Leyding cell tumors are even rarer. In this case report we present a patient with torsion of ovarian cyst that had unique physical appearance as well as histopathology.

CASE REPORT:

An 11-year old female presented with severe right sided lower abdominal pain with a palpable mass in same anatomical region. Patient had a past history of similar episodes of intermittent pain for the last six months for which she was treated in a near-by hospital. She was prescribed pain killers. Menarche was not started. Her CT scan abdomen done as part of investigations for the recurrent abdominal pain showed a well-defined hyperdense cystic lesion of around 8.2 cm x 7.5 cm x 5.5 cm in lower abdomen. Right ovary was not visualized separately. However, left ovary and uterus had normal appearance. A diagnosis of torsion of right ovarian cyst was made.

After initial stabilization and laboratory investigations patient was operated in emergency. At laparotomy a huge right ovarian cyst with 360-degree torsion in anticlockwise direction was found. About 250ml of serosanguinous fluid was aspirated and de-torsion done. The blood supply of the cyst was satisfactory (Fig I). Cyst was then opened with the intent to save part of tissue along fallopian tube that was considered as compressed ovary. The cyst on opening was found to contain multiple enlarged Boba tea-balls like structures of different sizes adherent to the cyst wall in bunches (Fig II). Right ovarian tissue could not be separately identified. Left ovary and uterus were normal.

Fig. I: Thick-walled ovarian cyst after de-torsion

[1]. Department of Paediatric Surgery, NICH, JSMU Karachi

Correspondence:
Dr. Fareeha Nazar [1*]
Department of Paediatric Surgery
National Institute of Child Health (NICH)
Jinnah Sindh Medical University (JSMU) Karachi
E-mail: fareehanazar95@gmail.com

Fig. II: Boba tea balls like structures within the cyst.

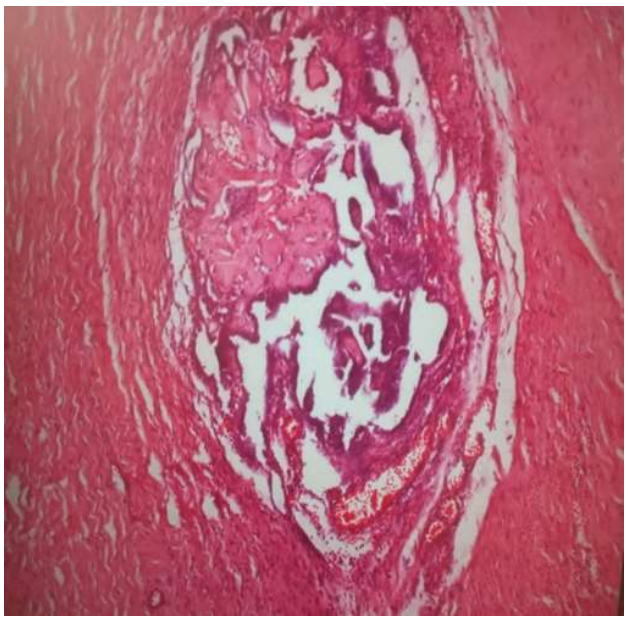

Fig. III: Histopathology section showing retiform pattern of the tumor.

Cyst was excised partially while keeping the suspected ovarian tissue in place as the anatomical features were unusual. Histopathology of the excised specimen showed sex-cord stromal tumor, the Sertoli-Leydig type, with retiform pattern (Fig III). Following biopsy report patient was re-explored and remaining part of the cyst and ovarian tissue (completion oophorectomy) along-with right sided fallopian tube were removed. The excised ovarian tissue revealed same pathology as that of previous report. Fallopian tube had no tumor infiltration. Patient is in follow-up with the oncology team.

DISCUSSION:

This is a report of rare tumor in a girl who presented with abdominal pain due to ovarian cyst. The origin of sex cord–stromal tumors is assumed to be from an undifferentiated primitive mesenchymal stem cells. These cells probably reside in urogenital ridge under the surface epithelium. These cells are totipotential in nature and can differentiate into several different cell lines.[5]

According to WHO revised classification of stromal tumors, our patient falls into the category of mixed sex cord-stromal tumors. [6] In our patient ovary contained Sertoli-Leydig cells. The reported incidence of these type of tumors is less than 0.5%.[7] The sex cord–stromal tumors are usually functional in nature as they produce hormones that may lead to systemic manifestations. However, same was not observed in our patient. In literature it is reported that these tumors can produce both feminizing and androgenic effects.

These tumors though rare are usually associated with good prognosis. They are mostly of low grade malignant transformation and have non aggressive course. Oophorectomy usually suffices.[8] Our patient had another interesting feature of presence of boba tea balls, also known as tapioca pearls, like appearance. This was an unexpected finding because these tumors usually have greyish yellow appearance and are solid in nature. As findings were unusual thus partial cystectomy was performed at initial surgery.

CONCLUSION:

Sex cord-stromal tumor of Sertoli-Leyding type presented as torsion of ovary rather than with hormonal effects. Completion oophorectomy is essential part of the surgical intervention as these tumors have malignant potential.

REFERENCES:

1. Birbas E, Kanavos T, Gkrozou F, Skentou C, Daniilidis A, Vatopoulou A. Ovarian masses in children and adolescents: a review of the literature with emphasis on the diagnostic approach. Children (Basel). 2023;10:1114. doi: 10.3390/children10071114.

2. Cecchetto G. Gonadal germ cell tumors in children and adolescents. J Indian Assoc Pediatr Surg. 2014;19:189-94. doi: 10.4103/0971-9261.141995.

3. Hashemipour M, Moaddab MH, Nazem M,Mahzouni P, Salek M. Granulosa cell tumor in a six-year-old girl presented as precocious puberty. J Res Med Sci. 2010;15:240-2.

4. Taskinen S, Fagerholm R, Lohi J, Taskinen M. Pediatric ovarian neoplastic tumors: incidence, age at presentation, tumor markers and outcome. Acta Obstet Gynecol Scand. 2015;94:425-9. doi: 10.1111/aogs.12598.

5. v Allmen D, Fallat ME, Burnweit C. Sec cord-stromal tumors. [Internet] Pediatric surgery library. Available from URL https://www.pedsurglibrary.com/apsa/view/Pediatric-Surgery-NaT/829128/all/Sex_Cord_Stromal_Ovarian_Tumors#ref2196546 accessed on October 2023.

6. Kurman RJ, Carcangiu ML, Herrington CS, Young RH. WHO Classification of Tumours. 4th ed. Vol. 6. Lyon: IARC; 2014. Classification of tumours of the ovary; pp. 44–56.

7. Horta M, Cunha TM. Sex cord-stromal tumors of the ovary: a comprehensive review and update for radiologists. Diagn Interv Radiol. 2015;21:277-86. doi: 10.5152/dir.2015.34414.

8. Cabrera-Cantú F, Urrutia-Osorio M, Valdez-Arellano F, Rivadeneyra-Espinoza L, Papaqui A, Soto-Vega E. Sertoli-Leydig cell tumor in a 12-year-old girl: a review article and case report. Arch Gynecol Obstet. 2014;290:791-6. doi: 10.1007/s00404-014-3293-6.

Received for publication: 19-10-2023

Accepted after revision: 15-11-2023

Author's Contributions:
Fareeha Nazar: Conception, literature search and manuscript wrting.
Fatima Majid: Manuscript review.
Farhana Zulfiqar: Histopatholoy slides interpitation.

Source of fundings: Nil

Competing interest: None

Ethical statement: Permission was taken from parents of the child for reporting this case for educational purposes.

How to cite this article:
Nazar F, Majid F, Zulfiqar F. Floating "Boba tea" balls in an ovary of the child - An unusual presentation of Sertoli-Leydig cell tumor: A case report. J Surg Pakistan. 2023;28 (3):90-2.