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## CASE REPORT

# Dermoid Cyst in an Accessory Ovary: A case report

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**ABSTRACT**

Accessory ovaries are rare in incidence and tumour arising from these ovaries is extremely rare. We reported incidental finding of dermoid cyst during caesarean section in a 32-year-old, gravida 4, para 3-0-0-3 for fetal distress. Resection of the cyst of accessory ovary done and histological evaluation confirmed diagnosis of mature cystic teratoma or dermoid cyst.

**Keywords:** accessory ovary, supernumerary ovary, dermoid cyst.

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## Introduction

Accessory ovaries are rare gynaecological conditions with reported incidence of 1:29,000 - 700,000 cases[1]. Tumour arising in accessory ovaries are extremely rare. The case reported here is unique in that a benign cystic teratoma (dermoid cyst) in an accessory ovary was inadvertently discovered at the time of emergency lower segment caesarean section done for acute fetal distress.

## Case Report

A 32-year-old, gravida 4, para 3-0-0-3 at 37 weeks gestation underwent emergency lower segment caesarean section (EMLSCS) for acute fetal distress, however intra-operatively we noted the presence of left ovarian cyst measured 5 cm x 5 cm which was not noticed in all ultrasonography done in antenatal period. The cyst surface was smooth with the appearance of hair and sebum which clinically suggestive of dermoid cyst. Upon thorough exploration, we revealed one normal ovary connected to the same ovarian ligament attached to the left ovarian cyst (Fig. 1).

There was a clear demarcation in between these two ovaries and the dermoid cyst derived from the left accessory ovary. Both right and left ovaries were located at the normal location and appeared to be normal (Fig. 2).

Other anomaly was not identified during exploration of the abdominal cavity. Resection of the dermoid cyst was performed over the left accessory ovary. The operation was uneventful, and she recovered well postoperatively. The histopathology from the resected cyst was benign mature cystic teratoma of the left accessory ovary (Fig. 3A, 3B)

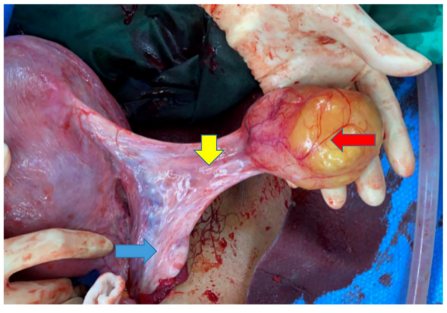

**Fig. 1.** Intraoperative findings showed presence of a dermoid cyst at the left accessory ovary (red arrow), where the accessory ovary located near and attached (yellow arrow) to the left normal ovary (blue arrow).

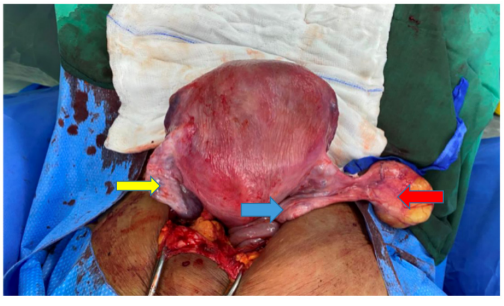

**Fig. 2.** Posterior view revealed a 5x5 cm dermoid cyst seen over the left accessory ovary (red arrow), both right (yellow arrow) and left (blue arrow) ovaries normally located and appeared normal.

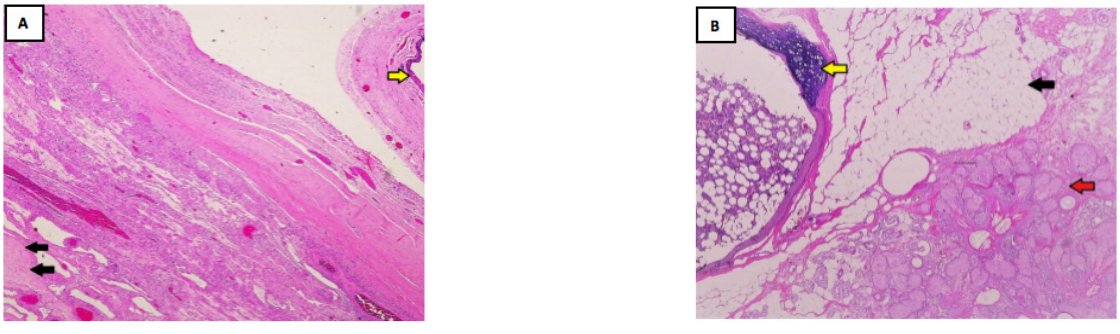


**Fig. 3.** (A) The cyst wall composed of ovarian stroma with corpus albican (black arrow) lined by stratified squamous epithelium (yellow arrow) (H&E, 40X). (B) In other areas, the cyst wall showed skin and its appendages (red arrow), cartilage (yellow arrow), bone with its hematopoietic cells and adipocytes (black arrow). (H&E, 40X).

## Discussion

Ectopic ovary is an extremely rare gynaecological condition, whether accessory or supernumerary ovaries. The first description of an accessory ovary was reported in 1864 by Grohe and first case of supernumerary ovary was reported in 1890[2]. Only a few cases of ectopic ovary have been reported and in the most cases, including the present case, the ectopic ovary was an incidental finding. Accessory ovaries are often subcentimetric and patients are usually asymptomatic, thus preoperative diagnosis is challenging[3]. As with our case, it was an incidental finding intra-operatively, which the left accessory ovary was located near and attached to the normally placed

left ovary with presence of dermoid cyst at the left accessory ovary.

Accessory ovaries arise from a splitting of the developing ovarian primordium on the germinal ridge and are supplied by vessels continuous with those of the normally placed ovaries along with the mesoovarium. Due to its rarity, there is no studies or reviews comment on the most common site of accessory ovary, however by the definition itselft, accessory ovary is located near to the normally placed ovary, and may be connected with the ovary itself, broad ligament, ovarian ligament or infundibulopelvic ligament while supernumerary ovary, the ovarian tissue is entirely separate from the normally placed ovary, and it arises from a separate primordium[4].

There have been two theories that have been postulated with regards to the development of accessory ovary. Firstly, based on an embryological theory, they were formed as a result of abnormal separation of a small portion of the developing and migrating ovarian primordium[5]. Secondly, the formation of accessory ovaries developed in cases of acquired conditions such as inflammation and surgery, as explained by Lachman and Berman theory. This theory explains that part of the ovarian tissue detached from the ovary could implant anywhere in the pelvic cavity and continue to function in vivo.

With the presence of an accessory ovary, there is also an increased incidence of urogenital ridge defects. From 19 cases of accessory ovary reviewed by Wharton, five cases had defects such as accessory fallopian tube, bicornuate uterus and agenesis of the kidney[4]. Accessory ovary is often excised during surgery as it has both the functional and potential pathological behaviours of the normal ovaries[6].

In the literature, various cases report of tumors from the accessory or supernumerary ovaries, such as dermoid cyst, serous cystadenoma, Brenner tumor, steroid cell tumor, and sclerosing stromal tumour[7-10]. Dermoid cysts are the most common germ cell tumours as they account for up to a quarter of all ovarian tumors in reproductive age. A dermoid cyst in an accessory ectopic is an extremely rare entity, and the incidence is unknown. Only a few cases of dermoid cyst in an accessory ovary have been reported[8,9]. The patient with disease accessory ovary carries risk of cyst accident such as twisted, ruptured or haemorrhage and the risk of malignant transformation, thus the surgical excision is the treatment of choice[11].

As found in our case, the histological evaluation confirmed the finding of a mature cystic teratoma or dermoid cyst in the accessory ovary. The specimen composed of all 3 germ cell components include skin and its appendages, respiratory type epithelium, bone, cartilage and adipocytes with the absent of immature elements. The remaining of ovarian stroma as well as corpus albicans are also appreciates.

The appropriate surgical procedure is the resection of accessory ovary including the disease if any, as in our case the accessory ovary as separated from the infundibulopelvic ligament and other adjacent structure. In cases where the disease accessory located along the infundibulopelvic ligament, extra caution is needed as the resection of the accessory ovary or ovarian reconstruction poses risk of vascular injury, hematoma and can jeopardize the blood supply to main ovary. The other risk is ureteric injury as the common site of iatrogenic injury is at the infundibulopelvic ligament.

In our case, the intraoperative was uneventful and she had good recovery following this surgery.

## Conclusion

The accessory ovary is asymptomatic in most cases and usually an incidental finding. Recognition of the accessory ovary is important to avoid unnecessary reconstruction of the ovary on the ovarian ligament and other structure. Complete excision of the pathological accessory ovary is recommended as it carries the risk of torsion, ruptured, infection and malignant transformation.

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## Potential conflicts of interest

The authors declare no conflicts of interest.

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