# Ovarian Dysgerminoma Presenting With Secondary Amenorrhoea: Case Report

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## Abstract

A rare case of ovarian dysgerminoma presenting with $2^0$ amenorrhoea in a 34 year old nulliparous woman is described. Her main clinical features were four years amenorrhoea, hirsutism and clitoridal enlargement. Investigation revealed very high level of testosterone with sonographic evidence of a right ovarian cyst measuring 60 x 55 mm. At surgery, cysts were found in both ovaries. Right oophorectomy and left ovarian cystectomy was performed. Histological examination confirmed dysgerminoma of the right ovary and corpus luteal cyst on the left ovary. Post-operatively, her menstration has resumed, facial hair growth disappeared and clitoridal enlargement is diminishing.

***Key words:*** Ovarian, Dysgerminoma, Secondary Amenorrhoea.

## Introduction

Ovarian dysgerminoma is a rare ovarian neoplasm, which develops from malignant differentiation of primordial germ cells. Patients often present with abdominal swelling or pain, and on occasions as an acute abdominal emergency due to an accident to the tumour, most commonly torsion. We report a case presenting as secondary amenorrhoea of 4 years duration with androgenic manifestations.

## Case Report

Mrs. N.N. was a 34 year old woman, Para $0^{-1}$ who had a surgical termination of pregnancy at 6 weeks gestation in 1992. She got married a year prior to presentation. She complained of cessation of her menses for 4 years. Her last menstrual period was in December 1997. Before this period, her menses had been regular, flowing moderately for 4 days in a cycle of 32-34 days. There was mild dysmenorrhoea but no inter-menstrual bleeding. Menarche was at 12 years.

There was history of galactorrhoea and excessive facial hair growth, but no history of headaches, excessive weight gain or loss or abdominal pain.

She was investigated in the year previously. Serum hormone assay revealed hyperprolactinaenmia and this responded to bromocriptine therapy. The serum progesterone was anovulatory. She had been treated with several hormone combinations such as Microgynon$^R$ and Dydrogesterone without any benefit.

She did not suffer from any chronic medical disorders and was a civil servant with a state Housing Development Corporation, married to a civil servant in the same corporation. She took alcoholic drinks occasionally but did not smoke cigarettes. Her mother is a known hpertensive while her father died of a cerebro-vasular accident five years earlier.

On examination, she appeared generally well. She was short-statured with prominent pimples on her face. There was hirsutism noticeable both on her face and on chest, and she had male hair distribution in the abdomen. The breasts were normal. The only abnormality detected on abdominal palpation was a vague non-tender mass in the lower abdomen.

Positive findings on pelvic examination were: the clitoris, which was significantly enlarged yellowish thick vaginal discharge, retroverted uterus, the size of which was difficult to ascertain because of the vague mass in the lower abdomen. The adnexa were free. A clinical impression of secondary amenorrhoea to exclude an ovarian mass with androgenic manifestations was made.

A hormonal assay done showed grossly elevated testosterone levels (>15.0 ng/ml- normal range). The only abnormal finding on ultrasound scan was a circular hypoluscent mass in the right adnexal region measuring 60 x 55 mm. A hysterosalpingogram showed tubal blockage on the right, but no evidence of intrauterine synechiae. The haemoglobin concentration, packed cell volume, white cell count, platelet count, enythrocyte sedimentation rate were all within normal limits. The blood film and urinalysis were normal. The ultrasound scan was repeated 4 weeks later this time by transvaginal approach : the right adnexal cystic mass still persisted with the same dimensions, and a few scattered hyperechoeic shadows.

She was counselled and prepared for surgery. At laparotomy, both ovaries were enlarged, had thickened capsules containing multiple hard cysts. There was no ascites or evidence of spread beyond the ovaries. The sizes of the right and left ovaries were 60 x 50 mm and 50 x 40 mm respectively. They contained cysts measuring 40 x 35 mm and 20 x 20 mm respectively. Right oophorectomy and left ovarian cystectomy was performed, and specimens sent for histological analysis. The left ovarian tissue was reconstructed with chromic catgut 3/0 and haemostasis achieved. The postoperative course was uneventful. She was discharged home after 7 days and given a 1 week appointment. At the review visit, she had no

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complaints. The facial hair growth was already reducing, and the clitoris was receding. The menses had not resumed but the breasts were getting tender. A 4 week appointment was given and by then, her menstruation had returned a week earlier, and lasted for 5 days.

***Histology Report***

***Macroscopy***

Right ovary: Received an ovoid tan brown to pink to creamy firm tissue measuring 3.0 x 2.0 cm. Cut surface reveals nodular pink and red variegated appearances.

Left ovarian cyst: Received an irregular cream coloured to greyish firm tissue measuring 2.3 x 2.0 cm. Cut surface reveals creamy appearance with cystic cavities.

***Microscopy***

Right ovary: Histologic sections of the ovary show a dense fibro-collagenous capsule covering a parenchyma composed of sheets of large polyhedral cells with prominent cytoplasmic vacuoles. The cells have round to oval small hyperchromatic centrally placed nuclei. The sheets are separated by connective tissue strands with occasional haemorrhages, myxoid degeneration and few thick-walled blood vessels. Syncytiotrophoblastic giant cells are also seen. The histologic picture is consistent with a dysgerminoma.

Left ovarian cyst: Histologic sections show two cystic cavities disposed in an oedematous fibrous stroma. These cysts are lined by inner granulosa and outer theca cells. Several corpora albicantia are seen in addition to thick walled blood vessels. Histologic picture consisted with corpus luteum cysts of the ovary.

## Discussion

This case is the first ovarian dysgermimona, reported from the hospital, which is the busiest in the Federal Capital Territory. Ovarian dysgerminoma is a rare ovarian germ cell tumour, which occurs principally in girls and young women, as in this patient. Though they are generally unilateral and only bilateral in 10% of cases, [1,2] left ovarian cystectomy was performed to rule out involvement of the left ovary , even though its cystic nature was not detected pre-operatively.

Oestrogenic and androgenic manifestations may be seen and these tumours are sometimes found in patients with subnormal gonadal development or pseudohermaphroditism [1]. However in this patient, androgenic manifestations leading to masculinisation occurred. The clinical picture of masculinizing tumours of the ovary is usually one of initial defeminization (breast atrophy, amenorrhoea) with concurrent or rapidly following hirsutism and virilism. The latter three features were present in this case. An ovarian cause for hirsutism/virilism should be highly suspect if there is a substantial increase in plasma testosterone, as in this case where gross elevated levels (>15 ng/ml) were found.

One of the major lessons of this report is to look at the totality of the patient when investigating patients for clinical problems such as secondary amenorrhoea which can have a variety of causes. Using this protocol, it was easy to interconnect the presenting complaint with clinical features of hirsutism and virilism, and laboratory findings of elevated testosterone as well as the sonographic findings of an ovarian cyst. Another lesson is the need to educate women to seek help early. The level of virilization (clitoridal enlargement) was so significant, to suggest the chronicity of the process. If she had reported much earlier, her clinical problems would have been solved much sooner, and the physical manifestations would not have been so prominent.

While very few ovarian fumours notably dysgerminoma are radiosensitive, virtually all patients will be salvaged by chemotherapy using bleomycin, etoposide and cisplatin (BEP) [1,3] and yet still retain a significant chance of a return of reproductive function. The work of Williams has supported this [4]. From the laparotomy performed, this was a case of stage I dysgerminoma, although the diagnosis was uncertain until the confirmation by histology. In a review of the current modalities of treatment of malignant ovarian germ cell tumours by clinical stages and histological types, Sagae and Kudo recommended unilateral salpingo-oophorectomy without chemotherapy for stage I a dysgerminoma, which was the case here, as the tumour was limited to one ovary [5]. However, since conservative fertility sparing surgery, is the treatment of choice in young women, [2,6] right oophorectomy and left ovarian cystectomy as performed was deemed satisfactory treatment. The patient is on regular follow-up at the gynaecological out-patients, has had no problems, and has since continued to have regular menstrual cycles.

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