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Case Report

Hyperandrogenism due to ovarian tumour mimicking PCOS: a case report

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ABSTRACT

Hyperandrogenism is the most common endocrine disorder in reproductive age group. While 82% of the cases are due to PCOS, steroid cell tumours account for less than 1% of cases. These tumours are mostly seen in perimenopausal women and 25-30% of these tumours show malignant potential. Hysterectomy with bilateral salpingo-oophorectomy is the recommended treatment. In a young patient unilateral salpingo-oophorectomy and subsequent follow up can be offered. We present one such rare case of a young patient coming with menstrual irregularities, virilising symptoms and infertility, all features mimicking PCOS. She was diagnosed with a steroid cell tumour and successfully treated.

Keywords: Hyperandrogenism, Steroid cell tumours of the ovary, Steroid producing tumours

INTRODUCTION

Hyperandrogenism is a condition with excess production of male hormones in a female patient. This is the most common endocrine disorder in reproductive age group. The patients usually present with menstrual disorders, hirsutism, obesity and infertility. While the most common cause for this androgen excess is PCOS, other causes like androgen producing tumours of ovary should also be kept in mind. Though androgen producing tumours of ovary can occur in all age groups, they are rarely reported in young patients. So, a young patient may be wrongly treated for menstrual disorders and infertility unless steroid cell tumours are also kept in mind.

We present a rare case of a young patient, with hyperandrogenic symptoms seeking treatment for amenorrhoea and secondary infertility; she was diagnosed to have androgen producing tumour of ovary.

CASE REPORT

Mrs. R, 33 year, presented with history of amenorrhoea of 7 months duration with occasional spotting. She also complained of hirsutism, change of voice for 3-4 months and inability to conceive. Her obstetric index was P1L1.

She had irregular menstrual cycles for one year prior to amenorrhoea. Her last child birth was 5 years ago with no h/o contraceptive usage. She was anxious to conceive.

On examination she had mild hirsutism and hoarseness of voice. There was no galactorrhea. Her BMI was 23. Abdomen was soft and no mass was palpable.

On vaginal examination uterus was anteverted, normal in size and fullness was felt in right adnexa.

Urine pregnancy test was negative.

Ultrasound showed normal uterus. A 6.4x8cm solid mass was seen in right adnexa with areas of hypoechogenicity. Right ovary was not seen separately.

CA125 levels are 10units.

She was posted for laparotomy. As she is young and not completed family it was decided to go for conservative surgery. Right adnexal tumour was removed and sent for frozen section. Frozen section showed steroid cell tumour of the ovary. Left ovary appeared normal, and biopsy was taken which was normal.

Histopathology of the tumour was reported as circumscribed cellular tumour with sheets and nests of round polygonal cells with inconspicuous stroma (Figure 1). Tumour cells had distinct cell borders, central nuclei with moderate cytoplasm suggestive of steroid cell tumour.

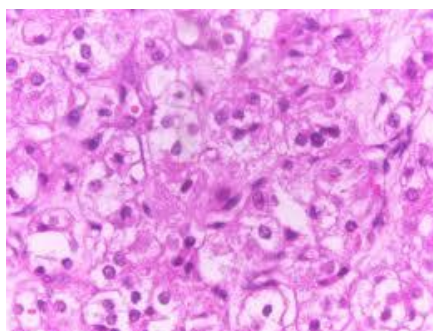


Figure 1: Histopathology of the tumour.

Shortly after surgery, hirsutism disappeared completely. Her voice became normal. She resumed menstruation three months later. She conceived spontaneously after 6months and underwent caesarean section at term.

DISCUSSION

Hyperandrogenism is a common endocrine disorder in reproductive age group.

While polycystic ovaries account for 82% of these cases, other causes like idiopathic hirsutism and late-onset congenital adrenal hyperplasia constitute the remaining causes.¹

It is to be noted that androgen secreting (steroid producing) neoplasms of ovary account for less than 1% of cases of hyperandrogenism.¹

Steroid producing tumours of ovary are generally grouped under sex chord stromal tumours and are usually benign.² According to their cell of origin, sex chord stromal tumours are divided into subtypes: stromal luteoma, and Leydig cell tumors. A third subtype with unknown lineage is a steroid cell tumor not otherwise specified (NOS). Tumour cells are polygonal or rounded, with distinct cell borders, central nuclei, and moderate to

abundant cytoplasm. Steroid cell tumors are commonly seen in peri-menopausal age group. Common presenting complaints are pain and bloated sensation. Rarely a young patient may present in infertility clinic with symptoms mimicking PCOS like our patient. In the presence of virilising symptoms if scan shows ovarian tumour, steroid producing tumour should be suspected.

In all virilised patients, serum testosterone levels of more than 2.0ng/mL, normal DHEA-S levels, and no evidence of 21 α -hydroxylase deficiency strongly suggest the presence of an ovarian virilising tumour. In our patient hormonal assays could not be done due to financial constraints.

94% of these tumours are unilateral. Usually they are benign. In peri-menopausal patients 25-30% of the cases are malignant.² According to a study done by Hayes and Scully presence of two to three mitotic figures per 10 high power fields suggest malignant potential. In addition there may be grade 2-3 nuclear atypia, necrosis and haemorrhage.³

Surgery is the main stay of treatment. In a peri-menopausal woman hysterectomy with bilateral salpingo-oophorectomy is the recommended treatment. However, in a young woman desiring fertility like our patient, unilateral salpingo oophorectomy can be done as most of the tumours are unilateral. As soon as the source of androgens is removed all the virilising symptoms disappear. But these patients need long term follow up with steroid hormone levels to exclude recurrence.

Some recent studies suggested use of GnRH analogues in these cases for suppressing androgens which may result in regression of tumour.⁴ But at present this is recommended only in recurrent cases on an experimental basis.

Malignant cases are managed by surgery followed by combination chemotherapy. There are not many studies about the effects of radiotherapy or chemotherapy on these tumours due to rarity of malignant disease.

Our case is unique due to occurrence of a steroid cell tumour in a young women presenting with menstrual irregularities, virilising symptoms and infertility, all features mimicking polycystic ovarian disease. Removal of tumour resulted in complete regression of symptoms, successful pregnancy and childbirth.

CONCLUSION

Steroid cell tumours, though rare, should be kept in mind in a woman presenting with virilising symptoms and is found to have an adnexal mass. In young patients conservative surgery results in complete reversal of symptoms; but they require regular follow up. In older women treatment of choice is hysterectomy with bilateral

salpingo-oophorectomy. If malignancy is diagnosed, an additional chemotherapy is required.

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