ARRHENOBLASTOMA OF THE OVARY

(A Case Report)

by

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Dysontogenic tumours of the ovary are of great clinical interest because of their clinical behaviour. Arrhenoblastoma, a rare ovarian tumour, is biologically active and causes defeminization and virilization of a female who has been normal previously. These virilizing tumours are characteristic because of their capacity to produce hormones leading to striking sex changes. Novak and Long (1965) reported 321 cases of arrhenoblastoma from ovarian tumour registry. Ten cases have so far been reported in India. (Paranjape, 1959; Parekh and Parekh, 1963; Ipse and Mukherjee, 1966; Banerjee, 1967; Deshpande and Deshmukh, 1971; Saxena *et al*, 1970); Begum and Rao, 1972; Daruwala, 1973; and Kochhar and Ghosh, 1974). Rarity of this condition warrants report of this case.

CASE REPORT

A 30 years, Hindu female C.B. was admitted at Jawaharlal Nehru Hospital, Ajmer, on 26th of May, 1975, with the history of amenorrhoea 2½ years, moustache and beard growth, change in voice, and abnormal growth of hair on the chest and abdomen for the last 2 years. She had one full term normal delivery 2½ years back. Menstrual cycles prior to her complaints were quite normal and regular.

General examination revealed a fairly built woman. Her pulse was 72/min, regular and B.P. 110/70 mm. She had male distribution of hairs viz., moustache, beard and abnormal growth of hair on the chest, abdomen and thighs, (Fig. 1). The breasts were atrophic, the clitoris enlarged and hypertrophied and the voice was hoarse. C.V.S., respiratory and nervous systems were normal. No lump was palpable on abdominal examination. On vaginal examination a normal sized uterus with a mass of 3" diameter in the right fornix was palpated. She was also admitted 1½ years back for abnormal hair growth and amenorrhoe. On vaginal examination a mass 2" in diameter was palpated but she left against medical advise and thus could not be investigated.

Investigations:

Blood Hb. 12 gm% total W.B.C. 9,700/cu mm. Differential CP 60%, 38%, m 2%, E.S.R. 15 mm/1 hour.

Serum Na 166.6 meq/L, Serum K 4.6 meq/L, Blood urea 16.6 mg.%, Blood sugar 61.8 mg.%.

Urine. No abnormality detected.

X-ray chest revealed no abnormality. X-ray skull no evidence of any pituitary tumour.

Urinary 17 Ketosteroids 5 mg./24 hrs. on 3 repeated examinations.

Fundoscopy. Media clear, disc hyperaenic, physiological cup absent, margins clear. Blood vessels dilated and tortuous. No haemorrhages or exudate, signs are in favour of increased intracranial tension.

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CSF revealed no abnormality.

BMR expected 37, expected reported 51, and actually found 39.

Curretage was done 2 days after admission and the endometrium was scanty and in proliferative phase. Laparotomy was done under general anaesthesia on 24th June, 1975. The uterus was slightly smaller than normal size. The right ovary was enlarged by a partly cystic and partly solid tumour, size of 3" x 1½". Both Fallopian tubes were healthy. Left ovary appeared to be clinically normal. Wedge resection was done and tissues from both ovaries sent for frozen section and the report was arrhenoblastoma of right ovary and normal left ovary. Right sided salpingo-oophorectomy was done. She had a smooth postoperative period.

CUT SECTION showed smooth lobulated cortex with greyish tissue showing cystic changes. Histological report of the tumour was a well differentiated arrhenoblastoma (Fig. 2). The left ovary was normal. Surprisingly she resumed first menstruation exactly a month after laparotomy i.e. 25-7-75. She was discharged on 8-8-75.

Comments

In the present case, the age of the patient was 30 years. Though, its maximum incidence is in the third decade, cases below 10 years have been reported. The tumour is unilateral in 95% of cases and bilateral in 5% (Whetton and Christian, 1966), the present case was also unilateral. The size of the tumour may very from 2-3 to 25 cm. They are usually small and may be even microscopic. Arrhenoblastomas are usually solid with smooth lobulated cortex frequently containing yellowish, orange, or greyish tissue. Cystic changes and haemorrhage may occur and cystic change may be mistaken for Stein Leventhal syndrome. Cut section of tumour of the present case also showed a smooth lobulated cortex with greyish tissues with cystic changes.

Meyer (1930) classified these tumours into three histological varities.

1. Well differentiated tubular adenoma.
2. Intermediate variety.
3. Undifferentiated variety.

Ketosteroids levels are unrelated to the degree of virulism, type of tumour and the presence of interstitial cells, though high levels of Ketosteroids have been seen when there are considerable number of intestitial cells (Novak and Long, 1965). 17 Ketosteroids excretion in these cases is usually normal (Speed 1953) because of production of androgenic substances which are not excreted as 17 Ketosteroids by the tumour. Occasionally menorrhagia occurs in arrhenoblastoma (Kochhar and Ghosh, 1974) which is due to weekly acting androgens.

The duration of onset of symptoms is variable and there may be a long latent period. This is due to the fact that the initial symptoms may be less and virilization is a gradual and slow process. There is initially defeminization followed by masculinization. Defeminization is characterized by oligomenorrhoea progressing to amenorrhoea, breast atophy, sterility and loss of normal feminine contour. This is followed by virilizing signs e.g. hirsutism, voice changes, and enlargement of the clitoris. Amenorrhoea is not due to the effect of androgens on the endometrium but due to androgens inhibiting the hypophysis thereby suppressing ovarian function.

Reversal of symptoms occurs after removal of the tumour surgically. Menstruation starts within 1-3 months. There is complete disappearance of hirsutism and hair growth of normal female characteristic occur. There is refeminization i.e. enlargement of breast occurs, though clitorial enlargement and hoarseness of voice persists.

Summary

A case of unilateral arrhenoblastoma of the right ovary in a woman aged 30 years is discribed where all virilizing and defeminizing symptoms were present. Prompt reversion to normal menstruation occurred following removal of the lesion.

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