ARRHENOBLASTOMA OF OVARY

(A Case Report)

by

BANI GHOSH,**

and

SUMANA SENGUPTA,*

Arrhenoblastoma is a rare and potentially malignant tumour of the ovary that resembles the embryonic testis in histological structure. Such tumours are capable of producing striking sex changes on account of their hormone-producing capacity.

These tumours are very rarely found and from India only a few cases have been reported in the literature: Parekh and Parekh (1963), Ipye and Mukherjee (1966), Banerjee (1967), Saxena and Srivastava (1970), Deshpande and Deshmukh (1972), Begum and Rao (1972), Daruwala (1973), Kochhar and Ghosh (1974).

Case Report

Mrs. N. B., a muslim woman, 35 years of age, was admitted into Lady Dufferin Victoria Hospital on the 9th May 1975 with complaints of cessation of menstruation for the last 8 years and lump in the abdomen for 6 years, which suddenly increased in size associated with pain in the abdomen. She also noticed excessive growth of hair on the face (beard) with gradual atrophy of breasts and husky voice for about 2 years.

Menstrual History: Menarche was at the 14th year. Her menstrual cycle was normal and regular prior to these complaints. She was married at the age of 10 years.

*Pathologist.

**Visiting Surgeon (Gynaecologist).

Department of Obstetrics and Gynaecology, Lady Dufferin Victoria Hospital, Calcutta-9.

Accepted for Publication on 26.4.1976.

Obstetric History: Married for 30 years. She had 7 children—all full-term normal deliveries. Labours and puerperia were uneventful. Last child was 8 years old. Since then she was amenorrhoic.

On being questioned, she informed us that her breasts were becoming smaller, while her voice was gradually getting hoarse: she had to shave her upper lip and chin regularly. She was experiencing recurrent attacks of pain with rapid growth of hair on the face and also noticed that the lump in the abdomen was suddenly increasing in size.

General Examination: The patient was well-built and 5 ft. in height. There was good growth of hair on the face and upper lip with a fair-sized beard and moustache. Abdomen and chest were covered with thick terminal hair of typical masculine nature. Her voice was hoarse and breasts were atrophic. Blood pressure was normal at 130/80 mm of Hg. Pulse and temperature too were normal.

Abdominal palpation revealed an irregular mass of 20 weeks' size pregnancy arising from pelvis—freely mobile but not tender.

Bimanual examination: Vaginal cavity was of good depth and the above mass was felt in the right fornix separate from the uterus, which appeared to be normal in size. There was appreciable enlargement of the clitoris (Fig. 1).

Investigation: Haemoglobin was 60%. Urine was free from albumen and sugar. Blood urea was 25 gram per cent. Post prandial blood sugar was 86 mgm/per 100 cc of blood. Blood group RH positive, group "0". X-Ray of the chest did not reveal any secondaries. Vaginal cytology—Hypohormonal with predominence of parabasal cells. X-Ray of the chest revealed no abnormality. Ascending pyelogram showed no metastases.

She was examined under anaesthesia on the 19th May 1975 and diagnostic curettage was done, but no endometrium was received after curettage. There was no nodule detected in the Pouch of Douglas. The tumuor was found to be freely mobile, firm in consistency but separated from the uterus which was pushed a little to the right side. Laparotomy was done under general anaesthesia on the 29th May 1975. The right ovary was enlarged by a solid tumour—greyish white in colour, 8″ x 5″ x 4″ in size and free from adhesions; the left ovary appeared normal in size. Considering the age of the patient and in view of the fact that she had completed her family, total hysterectomy was done with left-sided salpingo-oophorectomy—coupled with the removal of the right ovarian tumour (Fig. 2).

Postoperative period was uneventful and the patient was discharged from the hospital on the 30th June 1975. She attended out-patients' Department on the 11th July 1975 and 3rd October 1975; she was of good health. Vaginal examination revealed no mass in the pelvis. X-Ray of the chest showed no abnormality. Her only complaint was that she had to shave her beard and upper lip till then. Hoarseness of her voice continued. Urinary 17 Keto Steroid done due to existence of hairs revealed 5.1 mgm/24 hours of urine.

Histopathology: Gross observation—A large encapsulated tumour measuring 8″ x 5″ x 4″ in size and weighing 3½ lbs. The surface was lobulated, yellowish in colour. Cut surface showed a few small cystic spaces filled up with greenish watery fluid, and in the wall whitish and yellowish knobby areas. Uterus was smaller than normal with absence of endometrium. The other ovary and tube were normal (Fig. 4).

Microscopical examination

Multiple blocks from the ovarian mass were fixed, processed and sectioned in a routine manner. Sections were stained by haematoxylin and eosin. In most of the areas there were imperfect attempts at tubule formation with scattered interstitial cells (Fig. 3). In certain areas sarcomatous pattern of polyhedral cells were well-marked with incomplete tubules (Fig. 4). Histologically, the tumour was diagnosed to be intermediate group of arrhenoblastoma. The endometrium was atropic, while the fallopian tube and the other ovary were normal.

Discussion

Earlier, Burrows (1923) stated that the masculanising tumours of the ovary do not contain any testicular or male tissue, while the feminine tissue of the ovary itself is the source of a great majority of such tumours—an opinion with which Hughesdon (1966) concurs. However, World Health Organisation (1972) have of late classified this group of "androblastoma—Sertoli—Leydig cell" tumours and have held that these are the tumours which contain Sertoli and Leydig cells of varying degrees of maturity, undifferentiated gonadal cells of embryonal appearance being present in certain areas.

This patient attended the hospital after a long period of amenorrhoea and with a long existing abdominal lump. She sought medical advice due to appearance of beard and moustache and enlargemnt of clitoris during the last few years. X-ray of the Sella-turcica revealed no pituitary abnormality, while histology conclusively proved it to be arrhenoblastoma.

It has also been observed that in arrhenoblastoma, defeminization always precedes virilization. Defeminization means amenorrhoea, atrophy of breasts and loss of female contour leading to virilization —such as hoarseness of voice, enlargement of the clitoris, hair on the upper lip and appearance of beard. All these symptoms appeared in the case reported by us, after the disease had set in for about 8 years. Menstrual irregularity is generally found in 80% of the cases, while hirsutism is present in 60-80%.

The chance of malignancy is said to be 26% (Javert and Finn, 1951). In the case reported, histology did not suggest definite malignancy, but considering the age of the patient, radical surgery was decided upon. In our case, the tumour was unilateral, well-capsulated and there was

no evidence of recurrence when she was medically checked 3 months after surgery. Therefore, deep X-ray therapy was not considered and she was advised to attend the hospital for regular and thorough check-up. X-ray of the chest showed no abnormality and no mass was detected anywhere in the pelvis by internal examination.

Acknowledgment

We wish to thank Dr. N. K. Pal, Pathologist, Institute of Post Graduate Medical Education and Research, Calcutta, for providing us with the pathological report. Our thanks are also due to Dr. P. Dutta, Superintendent, Lady Dufferin Victoria Hospital, Calcutta for allowing us to publish the hospital case report.

References

1. Banerjee, R. K.: J. Obst. & Gynec. India. 17: 720, 1967.
2. Begum, K. A. and Rao, M. C.: J. Obst. & Gynec. India. 22: 479. 1972.
3. Burrows, H.: Obst. & Gynec. 50: 430, 1943.
4. Daruwala, S. S.: J. Obst. & Gynec. India. 23: 227, 1973.
5. Deshpande, A. S. and Deshmukh, K.: J. Obst. & Gynec. India 22: 479, 1972.
6. Hughesdon, P. E.: Obst. & Gynec. Survey, 21: 245. 1966.
7. Ipye, E. and Mukherjee, B.: J. Obst. & Gynec. India, 16: 339, 1966.
8. Javert, C. T. and Finn, W. F.: Cancer, 4: 60, 1951.
9. Kochhar, K. and Ghosh, D.: J. Obst. & Gynec. India, 24: 420, 1974.
10. Parekh, S. K. and Parekh, K. S.: J. Obst. & Gynec. India, 13: 564, 1963.
11. Saxena, S. C. and Srivastava, B. N.: J. Obst. & Gynec. India, 20: 273, 1970.
12. W.H.O. Histological typing of ovarian tumours International Histological Classification of tumours, No. 9. Edited by Serov, S. F., Scully, R. E. and Sobin, L. H.: World Health Organisation, 45: 43, 1973.

See Figs. on Art Paper XIX