

KRUKENBERG TUMOUR RESPONSIBLE FOR HIRSUTISM

Pages with reference to book, From 44 To 45

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A 30 years old woman developed coarse hair on the face, especially on the chin. She was married for 7 years but childless. Physical examination revealed a mass thought to be arising from the left ovary. Blood testosterone level was raised. The ovarian mass was removed at laparotomy. It was of the size of fetal head, having smooth external surface and firm solid consistency. Light microscopic examination of haematoxylin and eosin stained sections revealed large number of cells which resembled Leydig cells and also some signet ring cells with peripheral nuclei and clear cytoplasm. Another laparotomy was performed under the suspicion of a primary carcinoma in the stomach or colon. It revealed a big firm mass arising from the splenic flexure of colon. This mass was diagnosed on histopathological examination as adenocarcinoma colon. She was put on chemotherapy consisting of 5-fluorouracil 1000 mg i.v. stat, doxorubicine 60 mg i.v. stat an. cyclophosphamide 600 mg i.v. stat. The treatment was given in 5 pulses at 5-week intervals. At terminal stages, she developed malignant ascites and metastasis to the skin. She died after 6 months of diagnosis.

DISCUSSION

Histological examination of the ovarian mass showed large number of cells which resembled Leydig cells, This was in fact stromal luteinization in response to unilateral krukemberg tumour of colonic origin. The degree of response was unusual. These luteinized cells were responsible for hirsutism. The stromal cells of ovarian tumours may undergo morphological changes such that they may resemble luteinized cells and Leydig cells. Such a response when present in tumours other than sex cord-stromal tumours and associated with clinical, biochemical or pathological evidence of steroid hormone secretion, the tumours are called "ovarian tumours with functioning stroma." These tumours may be benign or malignant and if malignant, primary or secondary. They can secrete estrogens, androgens, progesterone or a combination of these. Functioning stroma has been reported in almost all types of ovarian tumours in varying frequencies.¹ Krukemberg tumour is one such tumour in which functioning stroma may be found. In this case, the stromal cells underwent luteinization and became Leydig like cells in response to the signet ring carcinoma cells of Krukemberg tumour of colonic origin. These were responsible for hirsutism due to increased secretion of testosterone. We have been able to collect only 4 such cases reported from 1983 to 1990. Silva et al,² presented a clinical and ultrastructural study of an androgenizing Krukemberg tumour in pregnancy. Ultrastructural observation suggested the large number of luteinized ovarian stromal cells to be responsible for elevated circulating levels of testosterone (5400 ng/dl). The fine structure of these cells showed large intramitochondrial lipid droplets and abundant smooth endoplasmic reticulum. Wong et al,³ presented ultrastructural, histochemical and immunohistochemical characteristics of 15 Krukemberg tumours. In two cases, stromal cells were luteinized with steroidogenic type ultrastructure. Ike et al,⁴ reported a case of left sided Krukemberg tumour associated with elevation of blood testosterone level in a 31 year old woman. She underwent bilateral oophorectomy. Postoperatively, carcinoma stomach was identified on roentgenography and examination by a camera. A gastrectomy was performed. Blood testosterone level was restored to normal range after resection of the ovaries.

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REFERENCES

1. Fox, H. Haines and Taylor Obstetrical and gynaecological pathology. 3rd ed. London, Churchill Livingstone, 1987, P. 724—36.
2. Silva, P. D., Porto, M., Moyer, D. L. and Lobo, R. A. Clinical and ultrastructural findings of an androgenizing Krukenberg tumour in pregnancy. *Obstet. Gynecol.*, 1988; 71: 432.
3. Wong, P. C., Ferenczy, A., Fan, L. D. and Mc Caughey, B. Krukenberg tumours of the ovary. Ultrastructural, histochemical and immunohistochemical studies of 15 cases. *Cancer*, 1986; 57: 751.
4. Ike, K, Takai, Y., Shinjo, K., Imamura, F., Ueda, N. and Namiki, M. A case of Krukenberg tumour associated with elevation in blood testosterone. *Hokkaido Igaku Zasshi*, 1985; 60: 440.