KRUKENBERG TUMOUR WITH PREGNANCY IN A CASE OF ADVANCED CARCINOMA GALL BLADDER

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Ovarian metastasis are common from primary growths of the gastrointestinal tract, notably the pylorous, colon and rarely small bowel; they occasionally occur from gall bladder and pancreas. Krukenberg tumour of the ovary is a rare occurrence. It was first described by Krukenberg (1896). In his orignal thesis he regarded it as a fibrosarcoma of ovary but subsequently it was found to be metastatic carcinoma with marked fibrocellular reaction. The histogenesis and pathology of Krukenberg tumour was established by Schlagenhaufer in 1902. But Krukenberg's original description is so accurate that it has been named after him. Association of gastrointestinal cancer and simultaneously ovarian cancer has been observed for many years. Even in 1846 a specimen of combined carcinoma was kept in the pathological Museum of the college of surgeons at London (Jarcho, 1938). Many authors reported on patients with simultaneous carcinoma of stomach and ovaries (Diddle 1855, Welch 1893) even before the time of Krukenberg. Beside gastrointestinal tract that metastatic tumour in ovary can occur from breast 10% (Woodruff and Novak, 1960). This tumour has been reported with pregnancy (Tawa and Barker, 1964) associated with elevated oestrogens (Trunen 1955) and seen with masculinization (Fox and Stamm, 1965).

CASE REPORT

Mrs. R. K. 40 years, HF, 8438/74 was admitted on 13-7-74 in L.L.R. and Associated Hospitals, Kanpur with complaints of colicky pain in abdomen and vomiting off and on for the last four months. Pain was situated in right hypocondrium, mild to moderate in intensity, colicky in nature, not radiated to right shoulder, not associated with distention of abdomen. Pain was associated with vomiting containing bile and food particles. There was no history of hemetemesis, malaena or fever. She was also having amenorrhoea for the last four months.

On examination she was thin built, anaemic and not jaundiced. B.P. 110/60mm Hg. No lymphadenopathy. Abdominal examination revealed an intra-abdominal lump in right hypocondrium, globular in shape, 2″ x 2″ in size, hard, not tender and moving with respirations. Liver was enlarged 2 fingers below the subcostal margin. It was hard, nodular and non-tender. There was no other lump palpable in abdomen except uterus which was of 16 weeks size.

On vaginal examination foetal parts were palpable and ballottment was positive. Blood examination revealed nothing significant. Urine examination was normal. Serum Bilirubin was 0.8 mg%.

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Received for publication on 28-10-74.

Operation

Abdomen was opened by right paramedian incision. Gall bladder was hard and nodular and the growth in the gall bladder was infiltrating the liver and hepatic flexure of colon. The greater omentum was also adherent to the gall bladder. Liver was enlarged, hard and nodular due to secondaries. No free fluid was found in the peritoneal cavity. Both the ovaries were enlarged, smooth and 2″ x 1½″ in size. The uterus was enlarged due to pregnancy. Bilateral oophorectomy was done. The pregnancy was terminated after doing the lower segment hysterotomy. As the growth in the gall bladder was inoperable it was left as such. The abdomen was closed in layers.

Biopsy Report:

Gross:—Ovaries were smooth solid masses. The cut surface was greyish white and gelatinous material filled cysts were present.

Microscopic:—Tumour was having myxomatous stroma amongst which scattered large signet ring cells were seen.

Diagnosis:—Krukenberg tumour.

Discussion

Krukenberg tumours are very interesting in the sense that histological picture of the secondary does not correspond to that of the primary. It is the secondary which steals the show by its size and symptoms. Woodruff and Novak are of opinion that in 10% cases primary site cannot be found. The tumour almost certainly arises by retrograde lymphatic spread. The carcinoma cells pass from the stomach to the superior gastric lymphatic glands which receive the lymphatics from ovary also. Carcinoma gall bladder can also involve these lymph-nodes in advanced stage. The older theory of direct cellular spill of cancer cells via the peritoneal cavity is challenged by the fact that capsule of a Krukenberg tumour shows no evidence of malignant penetration from outside.

Very few series have been noted in the world literature and very few cases have been reported from India. Konar (1967) reported a case of Krukenberg tumour removed with primary at the same operation. Tyagi et al (1967) reported only one case out of 120 ovarian tumours. Jagadeeswari (1971) reported 5 cases out of 95 total malignant tumours. Ramchandran et al (1972) reported one case out of 903 ovarian neoplasms. Talib (1974) reported only 2 cases out of 320 ovarian tumours. From the collected reports of the Ovarian Tumour Registry of America the incidence seems to be nearly 2.8% (Woodruff and Novak). Ovarian cancer and pregnancy may occur together, since 39% of ovarian cancers occur in premenopausal period. The incidence of ovarian tumours in pregnancy is 1:900 pregnancies and malignant tumours 1:18,000 pregnancies (Quoted by Anderson). Anderson also quoted Krukenberg tumour as 14% in pregnancy. One or two cases have occurred during pregnancy as noted by Lawrence, Larson and Hange (1957) and among the Ovarian Tumour Registry material utilized by Woodruf and Novak. The latter have found one 10 years salvage in a patient who had a characteristic unilateral primary Krukenberg tumour removed during pregnancy. Tulasi and Devi (1968) could not find a single case of Krukenberg tumour out of 22 cases of pregnancy with ovarian tumour.

There is an unfortunate inclination on the part of clinicians and pathologists to call any ovarian metastasis from a primary gastrointestinal cancer a Krukenberg tumour. This type of tumour should only be diagnosed if it confirms the following pattern: Krukenberg tumours are almost bilateral (as in reported case). They have smooth surfaces which may, however, be lightly bossed, and

they are freely movable in the pelvis. There is no tendency to form adhesions with neighbouring viscera and there is no infiltration through the capsule. The tumour retains the shape of the normal ovary and has a peculiar waxy consistency, although cystic spaces due to degeneration of the growth are common. Histologically the tumour has a cellular myxomatous stroma in which signet ring cells are seen. The cells are ovoid in shape with a granular cytoplasm and the nucleus is compressed against one pole of the cell so that the outline of the cell resembles a signet-ring. Whereas there seems little doubt that majority of Krukenberg tumours are secondary to malignancy elsewhere, usually in the gastrointestinal tract, there are several well authenticated cases of primary ovarian tumours (Frankel 1920; Andrews 1949; Schiller and Kozal 1941; Woodruf and Novak 1960) which fulfil the criteria for the diagnosis of this special neoplasm. Apart from stomach the large intestine is second most common site for primary malignancy. However, the primary site has been recorded in the small intestine (Leshick and Millar 1926) appendix (Waugh and Dindley 1937) and Breast (Woodruff 1970). Woodruff and Novak in 1960 reported a case of carcinoma gall bladder metastasizing into ovary as Krukenberg tumour.

Summary

A case of Krukenberg tumour with pregnancy is reported in a case of advanced carcinoma gall bladder. It was treated by bilateral oophorectomy. The literature on association of Krukenberg tumour with pregnancy has been reviewed.

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See Fig. on Art Paper VIII