Case Report

BONE METASTASIS FROM ENDOMETRIOID OVARIAN CARCINOMA: A CASE STUDY AND LITERATURE REVIEW

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Introduction

Ovarian epithelial malignancy rarely metastasize to the skeletal system. They usually spread by direct extension, transcoelemic spread and by lymphatic channel. Hematogenous spread is rare and late occurrence. Metastasis to bone from these tumours is rare. (0.1- 0.12%) and is reported in a few series. Only a few cases with bone metastasis have been reported at the initial presentation in patients with ovarian cancer.(1) Only 83 cases of primary disease with bone metastasis have been reported in the literature, the majority of which were autopsy findings. Bone metastasis discovered antemortem are the exception. We have registered 46 ovarian cancer cases in the department of pathology over the last 5 years and have not encountered single case of bone metastasis so far. The case is presented because of unique presentation, with no evidence of intraperitoneal disease or other metastasis

Case report

A 75 year old post menopausal lady presented in surgery department with chief complaints of swelling and pain over left thigh since 2 months. Swelling appeared 5 months back, it was drained at that time, but recurred 1 month back . According to patient , she was operated for fibroid 2 year back. A clinical diagnosis of antibioma was made. During surgery , a ill defined growth was seen extending deeply upto the bone. Excision biopsy of swelling was performed with few bony pieces.

Because of deep bony extension of the mass, pelvic MRI was performed which showed a large destructive soft tissue density mass lesion involving and arising from left pubic bones, left acetabulum with calcific foci and large central necrosis. So, a differential diagnosis of chondrosarcoma and metastasis in the pubic bone was made. There was no other evidence of metastasis and a search for second primary proved negative.

Grossly we received skin covered biopsy, partly solid and partly cystic in multiple pieces measuring 12x11.5x 2.5 cm. external surface of skin was ulcerated and cut surface showed necrotic areas. Two bony pieces were received separately.

Microscopic sections examined showed marked inflammatory response consisting of acute and chronic inflammatory cells, fibrosis, multi nucleatd giant cells, foamy macrophages, necrosis, myxoid degeration, haemorrhage and marked congestion.

Section from bony pieces showed deposits of tumour cells amongst normal bony trabeculae. Tumour cells were highly pleomorphic , with high N:C ratio, abnormal mitosis, and forming acini, papillae and few tubules.

So, a diagnosis of bony metastasis from unknown primary was made and clinicians were informed to search for primary in ovary, breast, GIT etc. serum CA 125 levels were increased to 230 U/ml.

The patients was asked to produce all the documents regarding previous surgery. Total abdominal hysterectomy with bilateral salpingoophrectomy was done 2 year back. And histopathological report showed leiomyoma of uterus and serous papillary cystadenocarcinoma of left ovary (Figure 1). Uterus , cervix , both the fallopian tubes and ometum was free of

tumour deposits. The patient was staged as having stage ia ovarian cancer(as per FIGO 1986 staging system). The patient was advised adjuvant chemotherapy , which she did not take.

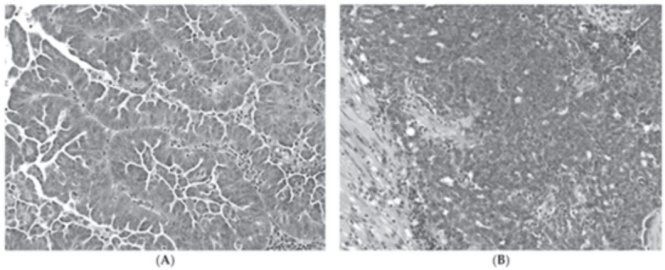

Figure 1: H & E sections revealing variable architectural features including papillary, micropapillary and solid growth patterns. The tumor cells typically exhibit marked nuclear pleomorphism with prominent nucleoli, high mitotic activity (typically > 12 mitoses per 10 high-power fields), including atypical mitoses.

Discussion

Ovarian cancer is the fourth most common type of breast cancer and fifth leading cause of cancer death in women in the united states. Estimated new cancer cases and death from ovarian cancer in united states in 2012 are 22,280 and 15,500 respectively. In India , during the period 2004- 2005, proportion of ovarian cancer varied from 1.7% to 8.7% of all female cancers in various urban and rural population based registries operating under the network of the National Cancer Registry Programme (NCRP) of Indian Council of Medical Research. Metastasis from ovarian cancer are usually implantation or lymphatic to pelvic and para aortic lymph nodes, with distal metastasis being rare and occurring late. Bone metastasis are extremely rare and other clinical series report an incidence of 0.1- 0.12%. (2)Autopsy study reveals bone metastasis in 6-14% cases.(2) Bone involvement occur more frequently in dysgerminoma , as opposed to epithelial tumours of the ovary. We also performed a retrospective chart review of last five years , and only one current case was found to have an initial presentation with bone metastasis among 46 ovarian cancer patients.

The median time to development of bone metastasis after the diagnosis of ovarian cancer is 74 months (range, 68 – 80 months). (3) In our study it is around 24 months therefore bone metastasis in this case may reflect its aggressive nature.

Bone metastasis in patients with ovarian carcinoma are usually associated with symptoms of bone pain and lesions tend to be focal and osteolytic, rarely osteoblastic. The most common sites of metastasis are vertebral bodies followed by ribs, clavicle, skull, femur.

Bone lesions do not usually occur in the absence of advanced disease, , ie. Stage iii or iv . Many cases have been reported in an autopsy , but there is scarcity of clinical cases. Brufman and Mettler etal confirmed this findings in clinical series, with all patients with bone metastasis presenting with stage iii or iv disease.

Hong etal analyzed 336 patients of distant metastasis from ovarian cancer. Of these, four patients had bone metastasis, two of which belonged to thoracic vertebra, one to the clavicle and one had bone marrow involvement. None of the patient in this series had bone metastasis as first site of presentation. In a study of 113 cases of ovarian carcinoma by Karim etal , no patients had bone lesions as the only manifestation of metastatic disease.(3)

Baize etal also reported a case of ovarian cancer which presented with lumber vertebral metastasis soon after treatment , as part of distant spread. (4)

The mean survival interval is 7.5 months (range, 6- 39 months) in patients with bone metastasis of ovarian cancer. The incidence of micro metastasis in the bone marrow could be higher if bone marrow biopsy were conducted on all the patients with ovarian cancer.

Conclusion

We present a rare case of ovarian cancer with an initial presentation of bone meatstasis. Bone metastasis of ovarian tumour is by hematogenous spread. Its identification at clinical presentation predicts treatment failure with a maximum survival of 7.5 month a s reported in the literature.

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