Bone metastasis from ovarian cancer

Anu Tiwari, Narendra Kumar, Ranjeet Bajpai, Punita Lal

ABSTRACT

We report a case of epithelial ovarian cancer, which presented with lumbar vertebral metastasis soon after treatment, as a part of distant spread. This patient was then treated by palliative radiotherapy and put on second line chemotherapy i.e., Topotecan. She responded to treatment well.

KEY WORDS: Bone metastasis, cancer ovary

INTRODUCTION

Ovarian cancer is the fourth most common type of female cancer and fifth leading cause of cancer death in women in the United States.[1] In India, the ICMR registry reports the crude incidence rate of this cancer as 4.2 per 100,000 women, making it the fourth most common malignancy in women.[2] The main route of dissemination in ovarian cancer is by transcoelomic spread and through lymphatics. Hematogenous spread is uncommon.[3,4]

Metastasis to bones from these tumors is rare (0.1-0.12%) and is reported in a few series.[5,6] We have registered 189 ovarian cancers in the department of radiotherapy, SGPGI, in the last 15 years and have not encountered single case of bone metastasis so far. This case was unique in presenting vertebral metastasis soon after chemotherapy.

CASE REPORT

A 45-year-old premenopausal lady presented to a local gynecologist with chief complaints of distention of abdomen, loss of appetite and vague abdominal discomfort for three months duration. There was no associated menstrual complaint. An ultrasound of the abdomen and pelvis was done, which revealed bilateral mixed solid and cystic adenaxal masses along with ascitis and a large solitary peritoneal implant. A tentative diagnosis of ovarian malignancy was made, based on which Total abdominal hysterectomy and bilateral salpingooopherectomy (TAH-BSO) was done. Histopathology report of the specimen showed mucinous papillary cystic adenocarcinoma in both the ovaries. Uterus, cervix and fallopian tube were free and the omental deposit was positive for malignancy. The patient was staged as having Stage IIIC ovarian cancer (as per FIGO 1986 staging system). She was advised for adjuvant chemotherapy at that time, which she did not take. Three months later she developed distention of abdomen along with vague dyspeptic symptoms. She then reported to the Department of Radiotherapy Sanjay Gandhi Postgraduate Institute of Medical Sciences for further management.

On examination at that time, she was of average built with karnofsky performance status of 80. There was no evidence of pallor, icterus or lymphadenopathy. Examination of abdomen showed presence of free fluid with no associated organomegaly or palpable lump. Pouch of Douglas was free on per vaginal examination. She was investigated with a contrast-enhanced computed tomography (CECT) scan of abdomen and pelvis, which showed moderate ascitis with no residual disease or enlarged pelvic or para aortic lymph nodes and had postoperative changes.

CA 125 was done at that time and it was raised to 510U/ml. She was diagnosed to have progression of disease. Adjuvant chemotherapy i.e., Paclitaxel and Cisplatin was planned. She received six cycles of Paclitaxel (175 mg/m²) and Cisplatin (75 mg/m²) at three weekly intervals. The patient was hospitalized for chemotherapy, which was given with proper hydration and under antiemetic cover. She tolerated chemotherapy well and was on regular follow-up thereafter. Her CA-125 levels came down to 24U/ml at the end of treatment. Five months after completion of treatment, she complained of backache and abdominal pain and was advised for X-ray lumbar spine, bone scan, liver scan and CECT scan of abdomen. X-ray-lateral view [Figure 1] and bone scan [Figure 2] revealed a solitary metastasis on L2 vertebra. CECT scan of the abdomen [Figure 3] showed a space occupying lesion in the postero-
DISCUSSION

Epithelial ovarian cancer should not be considered a disease that remains confined to the pelvis and abdomen. Like other adenocarcinomas, this disease has significant potential for distant metastasis. Bony metastasis from epithelial ovarian malignancies is anecdotal and has been reported rarely in literature. Mode of spread appears to be hematogenous although no definite route has been documented in literature.

In an autopsy series, Dauplat et al. analyzed 336 patients of distant metastasis from ovarian cancers. 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 patients in this series had bone metastasis as first site of presentation. According to the authors, bony metastasis is rarest to be presented as first site and median time to development ranged from 13-49 months. In the present case report as well, bone involvement appears to be a part of hematogenous spread since both liver and bone were involved.

Rose et al. in their autopsy series studied the metastatic pattern in 428 ovarian cancers and correlated different histologies with sites of metastasis. The incidence of bony metastasis was 0.06-0.19% with epithelial histology. This reflects the rarity of bone involvement in this malignancy. There was no difference, however, in the spread pattern with different histological subtypes.

Fadi et al. did a clinico-pathological audit of bone metastasis from different gynecological carcinomas. They analyzed 305 patients, of which 113 were ovarian cancers. Skeletal metastasis was seen in seven patients. Five were documented as postmortem findings and only two showed up radiologically and in premortem setting. Bone metastasis was seen in high-grade tumors only. Most common site observed was thoracic vertebra, followed by clavicle and axial skeleton.

In the present case too, high-grade features were documented in the TAH-BSO specimen. Lumbar vertebral involvement, which is less common than thoracic region, was seen in this case.

Rose et al. had observed that presence of lymph nodes within the pelvis and para-aortic regions were associated with greater incidence of bone metastasis as compared to absent lymphadenopathy i.e., 0.14% to 0.02%. The present case did not have any lymph nodes yet bony secondaries developed five months following treatment.

Although there was no histological proof of spread to the vertebra but radiological and scintigraphic evidence was considered sufficient proof of dissemination to the bone. Pain palliation and growth restraint were done as one would do in any epithelial malignancy. Radiotherapy along with single agent Topotecan has been found to be effective thus far.
REFERENCES


Source of Support: Nil, Conflict of Interest: None declared.

Announcement

Free access to the Cochrane Library for everyone in India

Anyone in India with access to the Internet now has complementary access to reliable, up-to-date evidence on health care interventions from The Cochrane Library, thanks to sponsorship provided by the Indian Council of Medical Research (ICMR) that recently signed a three-year contract for a national subscription with the publishers, John Wiley & Sons. The Cochrane Library (available at www.thecochranelibrary.com) is considered by many to be the single most reliable source for evidence on the effects of health care interventions. It includes seven databases that are updated quarterly, four of which are the efforts of the 15,000 international contributors of the Cochrane Collaboration (www.cochrane.org).

The Cochrane Database of Systematic Reviews currently contains 4655 regularly-updated systematic reviews and protocols of reviews in preparation.

The Cochrane Controlled Trials Register currently contains references, mostly with abstracts, of more than 48,900 controlled clinical trials-easily the largest collection of such trials in the world.

The Cochrane Database of Methodology Reviews contains 22 systematic reviews of the science of reviewing evidence.

The Cochrane Methodology Register contains the bibliography of 9048 articles that could be relevant to anyone preparing systematic reviews.

The three other databases in The Cochrane Library include the:

• Database of Abstracts of Reviews of Effectiveness, summaries of 5931 systematic reviews published elsewhere and quality appraised by the UK National Health Service (NHS) Centre for Reviews and Dissemination.

• Health Technology Assessment Database that contains details of 6358 completed and ongoing health technology assessments.

• NHS Economic Evaluation Database that contains 20,292 abstracts of quality assessed economic evaluations from around the world.

Also available is information about the Cochrane Collaboration. One can search for interventions or health conditions across all these databases using free text terms or medical subject headings (MeSH).

From 29 January 2007 the Cochrane Library is freely available to all residents of India with Internet access thanks to funding from the Indian Council of Medical Research (ICMR) (www.ICMR.nic.in), and work of the South Asia Cochrane Network (www.cochrane-sacn.org).