INTRODUCTION

Ovarian cancer is the fourth most common type of female cancer and the fifth leading cause of cancer death in women. Management varies depending on the patient condition, so one patient can undergo aggressive decompression and stabilization followed by adjuvant therapy, while others may respond to medication and supportive care. The decision to pursue radical surgical treatment is complex, but the indications are becoming clearer. These include radioresistant tumors, obvious spinal instability, clinically significant neural compression secondary to retropulsed bone or from spinal deformity, intractable pain unresponsive to nonoperative measures, and radiation failure.

Keywords: ovarian cancer, metastase, spine, palliative

CASE REPORT

We reported a case of 45 years-old female with a weakness of both lower limbs for 2 weeks accompanied by defecating and urinating incontinence. She was diagnosed with ovarian cancer and had both ovaria removed 5 years ago followed with hysterectomy 1 year ago. She refused any adjuvant therapy and started to feel pain at her back for 3 months before admission to our department.

Physical examination reveals bilateral paraplegia with decreased physiological reflexes on both sides. Babinski was negative. Dermatomal sensory examination reveals anesthesia started at Th12 level. She was on a urinary catheter and having bowel incontinence. Further examination of "sacral sparing" sign was conducted in order to determine the degree of spinal cord palsy, and the patient was assigned to Frankle A grade.

Lumbosacral MRI (Figure 1) shows multiple metastatic osteolytic focus on MRI that enhanced with gadolinum injection. Near complete occlusion of spinal canal are seen on Th9, Th12, and L1 levels. On all metastatic segment bilateral foraminal stenosis was seen bilaterally on the Th9, Th12, and L1 segments and on the left side of the L5 segment. No malalignment or fracture detected on MRI. T1 weighted MRI (left) and T2 weighted MRI (right) shows multiple metastatic focus on Th9 and Th12 segments and L1 and L5 segments, involving
case report

corpus, and all the way to the posterior column with completely extradural involvement. Axial T2 scan (Figure 2) shows spinal cord compression with no CSF visible around the spinal cord, consistent with grade 3 Epidural Spinal Cord Compression (ESCC) Scale.

All means of palliative treatment have been administered yet she still suffers from pain due to foraminal compression. Although the primary tumor is failed to be controlled due to the patient’s refusal to adjuvant therapy, there is no proof of extraspinal or visceral metastasis foci.

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 the literature.

Although there was no histological proof of spread to the vertebra but radiological evidence was considered sufficient proof of dissemination to the bone. The diffusion through Batson venous system is the principal process of spinal metastasis, but the dissemination is possible also through the arterial and lymphatic system or by contiguity. Once cancer cells have invaded the bone, they produce growth factors that stimulate osteoblastic or osteolytic activity resulting in bone remodeling with the release of other growth factors that lead to a vicious cycle of bone destruction and growth of the local tumor.

The bone tissue undergoes a continuous process of resorption by the action of osteoclasts, and remodeling, through the action of osteoblasts. In normal individuals, this process is balanced. In cancer cells, this balance is lost and lytic, thicken or mixed lesions are created. The osteolytic lesions are caused by stimulation of osteoclastic activity accompanied by reduced osteoblastic activity, not by direct effects of tumor cells on the bone. The osteoblastic lesions are an expression of an increased bone formation around the tumor cells associated with a disequilibrium of the osteolytic activity and with an altered turnover of the bone. Once cancer cells have invaded the bone, they produce growth factors that directly stimulate osteoclastic activity and/or osteoblastic activity resulting in bone remodeling and further release of growth factors that lead to a vicious cycle of bone destruction and growth of local tumour.

Treatment for spinal metastases is largely palliative. Only in rare cases, usually with renal cell carcinoma, can cure be the goal if the spine is the only known site of metastasis. Treatment can involve chemotherapy, radiation therapy, and surgery. The decision to pursue radical surgical treatment is complex, but the indications are becoming clearer. These include radioresistant tumors (sarcoma, lung, colon, renal cell), obvious spinal instability, clinically significant neural compression secondary to retropulsed bone or from spinal deformity, intractable pain unresponsive to nonoperative
measures, and radiation failure (progression of the deficit during treatment or spinal cord tolerance reached).

Even if the patient satisfies one or more of the above indications, the type and goals of surgery must be determined by the patient’s ability to tolerate the procedure (i.e., the patient’s general medical condition) and, more importantly, by their estimated life expectancy. The latter is primarily based on the extent and aggressiveness of cancer and its response to previous therapies. In general, the goals of surgery are to correct and prevent any further deformity by stabilizing the spine, decompressing neural structures (spinal cord and nerves), obtaining a diagnosis if the primary is unknown, and preventing local recurrence.

Tomita et al13 and Kawahara et al14 retrospectively evaluated 67 patients including those treated conservatively and developed a new scoring system. Since the score of each item of the original Tokuhashi scoring system lacked weighting, each factor of each item was weighted by cox hazard analysis in the new scoring system. Paralysis, which was considered not to affect the survival period, was excluded, and the new scoring system was simplified compared with Tokuhashi’s. This scoring system is patient-centered and is often used along with Tokuhashi’s system for evaluation of the surgical indication, and its usefulness has been evaluated in many reports.15-21

Bauer22 reported that this scoring system successfully differentiated poor and good prognosis groups but pointed out that it downplayed pain and paralysis, lacked specificity for impending paralysis, and disregarded indications for many conservative treatments and palliative surgery due to an excessive emphasis on aggressive surgical treatments.

CONCLUSION

Treatment for spinal metastases is largely palliative, and yet palliative treatment for multiple spinal metastasis in-patient with ovarian cancer is quite challenging. This report shows that giving all of the palliative modalities that are available sometimes just not enough. Another management may reasonably be considered in which may improve symptoms, quality of life and survival.

ACKNOWLEDGEMENT

The authors report no conflict of interests.

REFERENCES


