Case Reports in Oncology

Case Rep Oncol 2011;4:490–491
DOI: 10.1159/000333067

Published online:
October 3, 2011

ISSN 1662–6575
www.karger.com/cro

Involvement of Bone in Epithelial Ovarian Cancer: Case Report of an Uncommon Late Metastatic Event

Maurie Markman

Cancer Treatment Centers of America, Eastern Regional Medical Center, Philadelphia, Pa., USA

Key Words
Bone metastases · Epithelial ovarian cancer · Prolonged survival

Abstract
Bone involvement is uncommon in epithelial ovarian cancer. In this report, a case of bone metastases from ovarian cancer is described and the potential risk factors for such a rare occurrence are discussed. It is possible that such an event will become more common in the future as patients with advanced ovarian cancer experience prolonged survival but the cancer is not eliminated.

Introduction

Bone involvement in epithelial ovarian cancer is very unusual, with several series noting an incidence of <2% [1, 2]. A recently encountered ovarian cancer patient who was found to have significant bone involvement at the time of disease recurrence, after an extended treatment-free interval, emphasizes the potential risk of metastatic disease in such sites and suggests possible unique features associated with this event.

Case Report

A 60-year-old female with a history of epithelial ovarian cancer was seen for a second opinion concerning management. She had originally been diagnosed with, and treated for, this malignancy in 1998. Following initial surgery and chemotherapy, the patient remained without evidence of disease until 2007 when documented recurrence within the peritoneal cavity led to an attempt at secondary surgical cytoreduction. This was followed by chemotherapy including both carboplatin and gemcitabine. The patient experienced considerable bone marrow suppression from this regimen, presumably due (at least in part) to the residual effects of her prior chemotherapy.

Maurie Markman, MD

Cancer Treatment Centers of America
Eastern Regional Medical Center
1331 East Wyoming Avenue, Philadelphia, PA 19124 (USA)
Tel. +1 215 537 7502, E-Mail maurie.markman@ctca-hope.com

Case Rep Oncol 2011;4:490–491
DOI: 10.1159/000333067
Published online: October 3, 2011

ISSN 1662–6575
www.karger.com/cro

The patient subsequently remained well until the fall of 2010 when she developed both lower pelvic and back pain. A pelvic PET/CT scan revealed a pre-sacral mass with definite erosion of the cancer into the sacrum. The bony involvement was confirmed on a follow-up MRI scan. The mass was felt to be unresectable and a decision was made to initially treat her with a platinum-based combination chemotherapy program (carboplatin plus pegylated liposomal doxorubicin), and to then consider surgery or local radiation therapy (depending on the impact of the response to the cytotoxic therapeutic regimen).

Discussion

One of the remarkable features of epithelial ovarian cancer is its localization in most patients to the peritoneal cavity during the majority of its natural history, despite potentially quite large tumor volumes contained within this region of the body [3]. It has been hypothesized that successful spread of the malignancy requires a variety of essential specific growth factors and nutrients found within the peritoneal cavity and peritoneal fluid.

However, it is also well recognized that women with advanced ovarian cancer who experience more prolonged survival have a greater likelihood of experiencing metastatic spread to additional locations, such as the central nervous system [1, 2]. It is possible that late-developing malignant clones have lost the essential requirement for external growth factor support in order to become established in distant sites. It is also reasonable to hypothesize that these cancers have been present, but quiescent, in these regions of the body for long periods before they become clinically evident. The patient presented in this report was known to have had epithelial ovarian cancer for 12 years prior to the documentation of metastatic spread to the bone, an observation consistent with other reports of the development of bone involvement as a late metastatic event in the natural history of the malignancy [1, 2, 4–6].

It is relevant for clinicians caring for ovarian cancer patients to appreciate that although bone is a most unusual initial site of metastatic spread in this setting, bony involvement may become a more common feature in the increasing proportion of patients with this malignancy who are expected to experience extended survival (>4–5 years) but who, unfortunately, are not expected to be cured of the disease process [7].

References

1 Cormio G, Rossi C, Cazzolla A, et al: Distant metastases in ovarian carcinoma. Int J Gynecol Cancer 2003;13:125–129.

2 Dauplat J, Hacker NF, Nieberg RK, et al: Distant metastases in epithelial ovarian carcinoma. Cancer 1987;60:1561–1566.

3 Hennessy B, Coleman RL, Markman M: Ovarian Cancer. Lancet 2009;374:1371–1382.

4 Baize N, Mahamat A, Benizri E, et al: Bone metastasis from endometrioid ovarian carcinoma: a case study and literature review. Eur J Gynaecol Oncol 2009;30:326–328.

5 Chang KH, Lee JP, Ryu HS: Rare case of stage IA epithelial ovarian cancer with bone as the first site of recurrent metastasis. Int J Gynecol Cancer 2006;16(suppl 1):322–326.

6 Saha E, Dziadzio M, Irving K, et al: Unusual cause of painful shoulder in an elderly woman with rheumatoid arthritis. Clin Rheumatol 2007;26:1549–1551.

7 Markman M: Viewing ovarian cancer as a 'chronic disease': what exactly does this mean? Gynecol Oncol 2006;100:229–230.