Cerebral metastasis from ovarian cancer treated with a multidisciplinary approach. Case report and review of literature

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Summary

Brain metastases from ovarian cancer are rare. A review of five autopsy studies reported brain metastases in 4% of 712 patients who died with a diagnosis of ovarian cancer. The prognosis is very poor and a consensus on the standard treatment is not available. We report the case of a patient who developed a solitary brain metastasis as single evidence of relapse, 26 months after the first diagnosis of ovarian cancer. A temporo-parietal craniotomy with excision of the mass and whole brain radiotherapy were performed. The patient is free of disease five months after radiotherapy completion. Also in patients suffering from neoplasms that rarely metastasize to CNS, a careful clinical examination may help to diagnose uncommon sites of disease relapse.

Key words: Ovarian cancer; Cerebral metastasis; Treatment.

Introduction

Brain metastases from ovarian cancer are rare. A review of five autopsy studies reported brain metastases in 4% of 712 patients who died with a diagnosis of ovarian cancer [1].

The prognosis is very poor and a consensus on the standard treatment is not available.

We report a case of a patient who developed a solitary brain metastasis as single evidence of relapse, 26 months after the first diagnosis of ovarian cancer.

Case Report

A 43-year-old female was referred to our institution in May 1998. Three weeks before, she had been treated in another institution with bilateral salpingo-oophorectomy, hysterectomy, omentectomy, appendyctomy and pelvic lymphadenectomy. The histological findings were consistent with an ovarian mucinous cystoadenocarcinoma, poorly differentiated (G3), FIGO Stage Ia. Ca-125 was normal before and after surgery and no residual disease was documented in the surgical records.

On the basis of the G3 appearance, after an informed consensus based on a careful explanation of risk and benefit of an adjuvant treatment, the patient was treated with six courses of carboplatin (AUC = 6) and paclitaxel (175 mg/sqm), d 1 q 21.

The treatment was completed in December 1998 and the patient was free of disease till August 2000.

The patient had been well until the day before the hospital admission, when aphasia, numbness, drowsiness and loss of consciousness occurred. Clinical examination confirmed a partial, sensorial aphasia. Routine blood tests, PA, ECG and arterial blood gas values were normal. Steroid and mannitol were administered with a rapid resolution of the symptoms. A brain MR showed a 4 cm subcortical right temporal solitary mass, iso-hypointense in T1, with perilesional oedema. Intense contrast enhancement after gadolinium injection was observed. Thoracic, abdominal and pelvic CT-scans were normal as was the CA-125 assay.

A temporo-parietal craniotomy with excision of the mass was performed. The histological findings revealed brain metastasis from ovarian carcinoma, poorly differentiated, extensively necrotic, with papillary areas, entirely removed.

Four weeks after surgery whole brain radiotherapy was started. A total dose of 3900 cGy was administered. At the end of radiotherapy, a total body CT-scan was performed without evidence of disease. To date, five months after radiotherapy completion, the patient is free of disease.

Discussion

Brain metastases from ovarian cancer rarely occur in clinical practice; a recent report suggests that the incidence is increasing [2]. In untreated patients median survival does not exceed two months. Whole brain irradiation is considered the treatment of choice with short-term palliation [3].

Recently, a multidisciplinary approach including surgery and radiotherapy, with or without chemotherapy, has been proposed for the treatment of a single metastasis. This treatment modality is based on two kinds of reports.

Firstly, three randomized trials demonstrated that surgery and radiotherapy are superior to radiotherapy alone in the treatment of patients with a solitary brain metastasis [4-6].

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Furthermore, some non-randomized series suggest a good outcome of patients with solitary metastasis from ovarian cancer after a multidisciplinary treatment [7-10].

In order to allow a tailored treatment, a careful evaluation of each case is mandatory. Patients should be selected considering performance status, number and location of brain metastases and eventual presence of systemic disease.

Patients with a solitary, resectable brain mass, without systemic spread of disease can be effectively treated with surgery and radiotherapy. In this subset of patients the role of chemotherapy is still unclear. Sporadic case reports support the role of carboplatin in treatment of brain metastases from ovarian cancer [11, 12].

The absence of systemic spread and the poor impact of chemotherapy on the overall outcome of brain metastases supported our therapeutic decisions. Patients with multiple or single non-resectable metastases and/or systemic disease can be treated with chemotherapy and radiotherapy with a palliative purpose. In this group of patients, radiosurgery plays an emerging role, even if its indications need to be better defined [13, 14].

In conclusion, we believe that patients with brain metastases from ovarian cancer must be treated with a tailored approach based on specific characteristics of the individual patient.

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