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Case Report

Isolated brain metastasis – A rare site of recurrence in a recurrent epithelial carcinoma ovary

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ABSTRACT

A 40-year-old lady presented with 15 months after completion of adjuvant chemotherapy with headache and impaired memory. MRI brain revealed isolated frontal lobe metastasis. She underwent surgical excision, whole brain RT followed by six cycles of chemotherapy.

1. Introduction

Central nervous system involvement in epithelial ovarian cancer (EOC) occurs only in 0.49–2.2% of patients and is associated with a poor prognosis. Till now no significant risk factors have been identified and currently there are no treatment guidelines. The options of treatment for EOC with brain metastases include surgery, Radiation, systemic and/or intrathecal chemotherapy, or a combination regime. We report a patient of epithelial carcinoma ovary who had recurrence in form of isolated brain metastasis following which she was treated with combination chemotherapy and she is on follow up since 2 years.

2. Case summary

A 39-year-old lady nondiabetic, nonhypertensive a case of advanced carcinoma ovary (High grade serous) with initial CA 125 of 5170 U/ml. She was treated with 4 cycles of neoadjuvant chemotherapy with paclitaxel 300 mg and carboplatin 600 mg followed by interval cytoreductive surgery. The histopathological examination revealed residual disease. She was given

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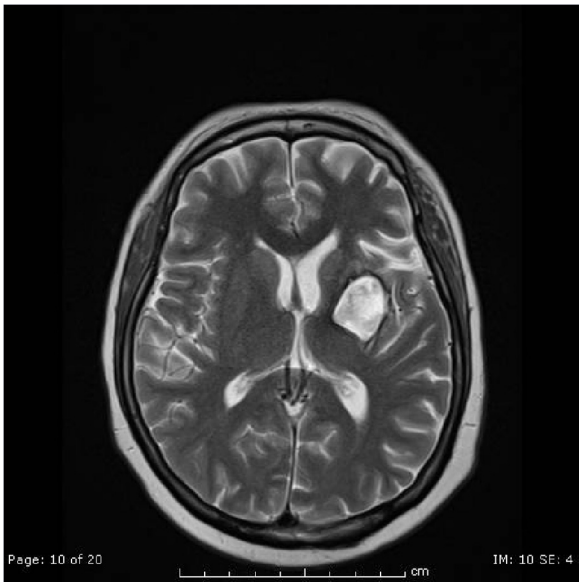

Fig. 1 – MRI brain postoperative state showing a lesion in the left basal ganglia region.

2 more cycles of adjuvant chemotherapy. She was kept on regular follow up. Her serial CA 125 levels done every 3 monthly were within normal limits. After about 15 months of her last chemotherapy, she complained of headache, irrelevant talk and impaired memory and absence seizures. MRI brain revealed large cystic and solid enhancing mass in left frontal region involving gangliothalamic region (Fig. 1). The Whole body PET CT did not show any evidence of disease outside the brain. Ophthalmological examination revealed grade II papilloedema. She underwent surgical excision of the tumor. The histopathological examination was suggestive of high grade serous carcinoma consistent with metastasis in a known case of carcinoma ovary. On Immunohistochemistry tumor cells express CK7 and WT-1. She was BRCA negative (Fig. 2a,b,c,d).

The case was discussed in a tumor board and was advised Whole brain radiotherapy followed by chemotherapy. She was treated with WBRT 30 Gy/15# followed by 6 cycles of palliative paclitaxel and carboplatin chemotherapy. Post 6 cycle reevaluation did not show any evidence of disease. She is now on regular follow up since 2 years.

3. Discussion

The CNS metastasis is commonly seen in solid tumors such as lung cancer, breast cancer and malignant melanoma and is very rare in EOC. The various studies have suggested an incidence between 0.49% and 2.2% and a meta-analysis reports an average incidence of brain metastases to be 1.01%. Various authors have suggested that patients with advanced disease (FIGO III and IV) and/or poor tumor differentiation (grade 3 disease) are at higher risk for developing brain metastases.

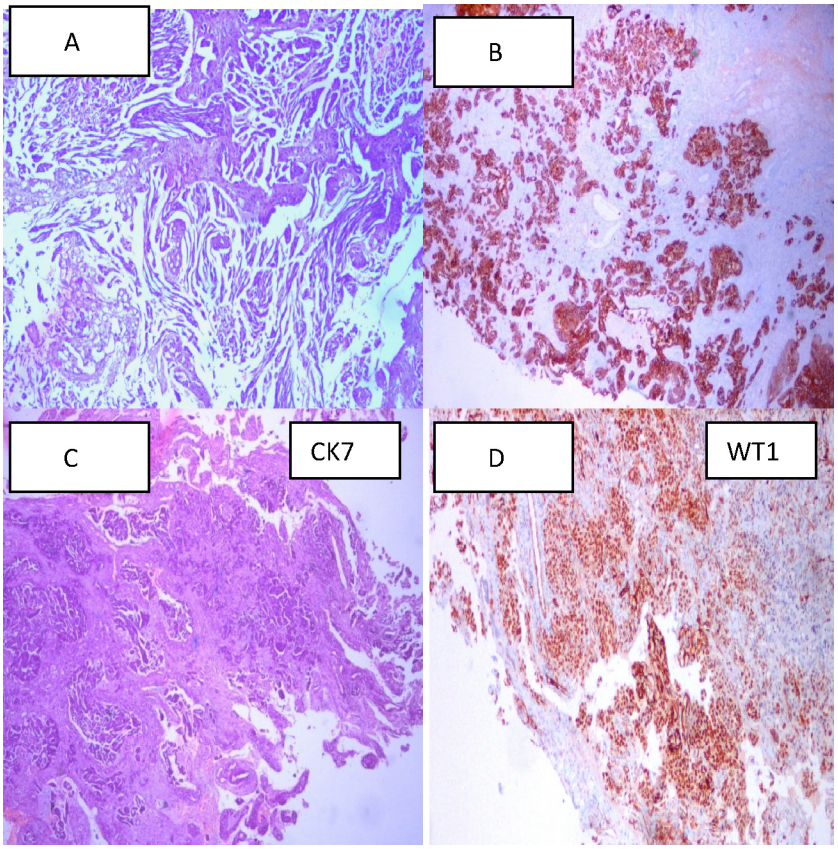

Fig. 2 – (A) Metastatic deposits of serous carcinoma infiltrating the brain parenchyma [H&E; ×100]. (B) Tumor infiltration into the meninges [H&E; ×100]. (C) Immunopositivity for CK7 [DAB; ×100]. (D) Nuclear immunopositivity for WT-1 [DAB; ×100].

Brain metastases, either single or multiple, occur after a median time of 21.5 months (range 0–126 months) following the initial diagnosis of EOC. In the majority of the cases multiple lesions are found. Forty to sixty percent of the cases show disseminated recurrent disease, with the remaining cases showing the brain to be the only metastatic site. Generally, the prognosis of EOC patients and brain metastasis is very heterogeneous. Currently, no standard treatment guidelines are available for EOC patients with brain metastases and must be individualized. Patients receiving only symptomatic treatments have a median survival of 2 months (range 0–15 months) while tumor targeting therapy, regardless of the modality employed, seems to improve median survival. According to Pectasides et al.,[3] treatment including surgery, radiotherapy ± chemotherapy shows advantages over other forms of treatment with a median survival of 20 months (range 1–57+ months) and 21.8 months (range 1–120+ months) respectively. This possible bias can be excluded only by conducting a prospective randomized study. Surgical resection is considered the best therapeutic approach and can be performed alone or in combination with chemotherapy and radiotherapy depending on the general condition of the patient and the specific tumor pattern.[1,2] The role of chemotherapy in the treatment of brain metastases remains controversial.

Patients who have new neurological symptoms in recurrent ovarian cancer, the presence of brain metastasis must be excluded. EOC patients with brain metastases should receive multidisciplinary treatment.[1,2] Randomized trials by international collaborative groups are warranted to define the real prevalence of brain metastasis and to define best therapeutic approach in this palliative setting.

Conflicts of interest

All authors have none to declare.

REFERENCES

1. Pietzner as, Oskay et, et al. Brain metastasis from Epithelial ovarian cancer – overview and optimal management. *Anticancer Res*. 2009;29:2793–2798.
2. Choo Bok AkA, Walji wz, et al. Prolonged relapse free survival in two patients with isolated brain metastasis from epithelial ovarian cancer. *J Clin Oncol*. 2010;28:e271–e272.
3. Pectasides D, Pectasides M, Economopoulos T. Brain metastases from epithelial ovarian cancer: a review of the literature. *Oncologist*. 2006;11:252–260.