Small-cell Carcinoma of the Ovary with Breast Metastases: A Case Report

Malobunkový karcinóm vaječníkov s metastázami do prsníku: kazuistika

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Summary

Backgrounds: Small cell carcinoma (SCC) is characterised by high metastatic potential and the possibility to metastasize to practically any tissue. Small cell carcinoma of the ovary (SCCO) has a very poor prognosis and patients usually die within one year of the initial diagnosis. Breast metastases from SCCO are extremely rare. ***Case:*** We present a 67-year-old female patient with SCCO who initially presented with bone and bilateral breast metastases. Considering the clinical presentation, the patient's age, the absence of hypercalcemia and histological characteristics, a diagnosis of pulmonary type SCCO was made. There was no tumour present in the lungs at the time of the initial diagnosis and thus we ruled out pulmonary SCC. ***Results:*** Initially, the patient was treated with radiotherapy of the bone lesion and systemic chemotherapy (etoposide with carboplatin) with the result of partial remission. Then, radical abdominal surgery was performed. Six months later she was diagnosed with progressive disease in the bone, soft tissue including the breast as well as new lesions in the right kidney, pelvis and lungs. She was treated with 2nd line chemotherapy (topotecan with cisplatin) with the result of progressive disease. Because of mediastinal lymphadenopathy, which was causing tracheobronchial compression, radiotherapy was administered with a good palliative outcome. Nine months later, multiple brain metastases were diagnosed and she was treated with whole brain radiotherapy. Shortly after brain irradiation, her status deteriorated rapidly and she died two years after her initial SCCO diagnosis. ***Conclusion:*** Extrapulmonary small cell carcinoma is a clinicopathological entity distinct from pulmonary small cell carcinoma. It is very rare and therefore there is very little information available regarding treatment of this disease. In contrast to experience in the treatment of pulmonary small cell cancers, prolonged survival is not common.

Key words

small cell carcinoma – breast metastases – ovarian cancer

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Súhrn

Východiská: Malobunkový karcinóm (small-cell carcinoma – SCC) je charakteristický vysokým metastatickým potenciálom a možnosťou metastazovať prakticky do akéhokoľvek tkaniva. Malobunkový karcinóm vaječníkov (small-cell carcinoma of the ovary – SCCO) má veľmi zlú prognózu a pacient zvyčajne zomiera do jedného roka od stanovenia diagnózy. Prsníkové metastázy SCCO sú extrémne zriedkavé. ***Prípad:*** V práci referujeme 67-ročnú pacientku s SCCO, s iniciálnym metastatickým postihnutím skeletu a bilaterálnymi metastázami do prsníka. Vzhľadom na klinický obraz, vek pacientky, neprítomnosť hyperkalciémie a histologický nález sme stanovili diagnózu SCCO pľúcneho typu. Na podklade neprítomnosti nádoru v pľúcach v čase stanovenia diagnózy sme vylúčili pľúcny SCC. ***Výsledky:*** Pacientka bola iniciálne liečená rádioterapiou na kostné lézie s následnou systémovou chemoterapiou (etopozid, karboplatina) a bola dosiahnutá parciálna remisie. Následne bola vykonaná radikálna chirurgickú resekcia. O šesť mesiacov neskôr bola diagnostikovaná progresia v kostiach, v oblasti mäkkých tkanív, vrátane prsníkových metastáz, ako aj nové lézie v oblasti pravej obličky, panve a pľúcach. Bola liečená 2. líniou chemoterapie (topotekan s cisplatinou) avšak s efektom progresie. Vzhľadom na mediastinálnu lymfadenopatiu, spôsobujúcu tracheobronchiálnu kompresiu, sme aplikovali rádioterapiu s dobrým paliatívnym efektom. O deväť mesiacov neskôr sme diagnostikovali mnohopočetné mozgové metastázy, ktoré boli riešené rádioterapiou. Krátko po ožiarení mozgu sa jej stav prudko zhoršil a pacientka zomrela dva roky od stanovenia diagnózy SCCO. ***Záver:*** Extrapulmonálny malobunkový karcinóm je rozdielny nádor v porovnaní s malobunkovým pľúcnym karcinómom. Je veľmi zriedkavý, a to je dôvod, prečo je len málo informácií o liečbe tohto ochorenia. V kontraste so skúsenosťami v liečbe malobunkového karcinómu pľúc je prežitie pacientov kratšie.

Kľúčové slová

malobunkový karcinóm – prsníkové metastázy – ovariálny karcinóm

Introduction

Small cell carcinoma (SCC) is characteristic with high metastatic potential. Extrapulmonary SCC is a distinct clinicopathological entity from pulmonary SCC. Small cell carcinoma of the ovary (SCCO) has a very poor prognosis and the patients usually die within one year from the initial diagnosis. Herein we present 67 years old patient with SCCO who initially presented with bone and bilateral breast metastases and survived two years after her initial diagnosis.

Case presentation

Our patient was a 67-year-old Caucasian female, presented with symptoms of weight loss and progressive lumbar pain one year before the diagnosis. In February 2006, on examination, 3 cm soft tissue tumor at the level of L1–2 and tumor in the upper lateral quadrant (ULQ) of left breast were palpable. CT scans revealed a 6 cm tumor of the right ovary, enlarged mediastinal and hilar lymph nodes and an MRI of the spine revealed metastatic involvement of Th6 with expansion into the 6th rib. Bilateral mammography unveiled 3 lesions in the ULQ of the right breast, 3–7 mm in diameter, and several lesions in the ULQ of the left breast, 5–20 mm in diameter. Fine needle aspiration biopsy from the palpable lesion in the left breast confirmed the diagnosis of small cell carcinoma, estrogen and progesterone receptor negative, chromogranin A positive and synaptophysin negative.

The patient was first treated with palliative external beam radiotherapy to the thoracic spine with a total dose of 5 × 4 Gy, and then underwent laparotomy with transfascial hysterectomy, bilateral adnexectomy, appendectomy, partial omentectomy with multiple excisions from peritoneal surface and abdominal lavage. The histology confirmed small cell carcinoma with the same immunohistochemical characteristics as previous histology from the breast tissue. There was no invasion of ovarian surface and no metastases in samplings from laparotomy. The abdominal washings were negative for tumor cells. From March to July 2006 she was treated with 6 cycles of carboplatin and etoposide. She achieved partial disease response after four cycles that remained stable after 6 treatment cycles. Six months later she was diagnosed with progressive disease in the breast tissue bilaterally, mediastinal and hilar lymph nodes, right kidney, pelvis, subcutaneous tissues, bones and lungs. From January till March 2007 she was treated with cisplatin and topotecan combination, however in March 2007 another progressive disease was observed. In March and later in May 2007, she was treated with palliative radiotherapy for the painful subcutaneous lesions and mediastinal lymph nodes that were causing compression of the tracheobronchial tree with good palliative outcome. In January 2008 multiple brain metastases were diagnosed and so she was treated with external brain radiotherapy. At the time of her last visit in February 2008, the dominant findings on examination were subcutaneous metastases in the abdomen, back, groins, head and neck, and her dominant symptoms were shortness of breath and pain from the bony and soft tissue involvement. She died shortly after her last visit at the end of February 2008. There were no substantial laboratory findings except slightly higher level of lactate dehydrogenase that correlated with progressive disease.

Discussion

Small cell carcinoma is characteristic with high metastatic potential and possibility to metastasize to practically any tissue [1–3]. Extrapulmonary small cell carcinoma is a distinct clinicopathological entity from pulmonary small cell carcinoma. It is very rare and that is why there is only little information available regarding the treatment of this disease [4]. In contrast with the experience in the treatment of pulmonary small cell cancers, prolonged survival is not frequent. Small cell carcinoma of the ovary (SCCO) has a very poor prognosis and the patients usually die within one year from the initial diagnosis. There are two types of SCCO distinguished, pulmonary and hypercalcemic type.

Pulmonary and extrapulmonary SCC has possibility to metastasize to practically any tissue [1–5]. Breast metastases are extremely rare. According to our knowledge, there is only one case report of SCCO and one case report of lung SCC with breast metastases [1,5]. Based upon clinical presentation in older age along with no presented hypercalcemia and histological characteristics, a diagnosis of pulmonary type of SCCO was made. There was no tumor presented in the lungs at the time of the initial diagnosis. Initially, we questioned whether a primary small cell tumor was in the breast or ovary; however because we found a large solitary tumor in the right ovary and multiple bilateral tumors in the breasts, we were inclined to make a diagnosis of primary SCCO with bilateral breast metastases at its initial presentation.

In conclusion, to our knowledge this only the second report in literature of SCCO with bilateral breast metastasis. Despite overall poor disease control by systemic therapy, patient survived 2 years from the initial presentation. Further research is warranted for better characterization of extrapulmonary SCCO including homing potential of cancer cells.

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