BRAIN METASTASES OF LUNG STARTING POINT – CASE REPORT

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Keywords: *brain metastases, therapeutic approach, median survival, lung cancer*

Abstract: *Brain metastases are the most common intracranial tumour found in adults: they appear as a result of hematogenous dissemination in 10-30% of the patients with cancer during their life and they are discovered in 25-40% cases in necropsy. Brain metastases have proven to be a very difficult issue of diagnosis and therapeutic approach for the physician and for the patient, an emotionally and physically debilitating problem that influences in great measure his survival. This paper presents the clinical observation of a 57 year-old patient whose clinical onset was in 2006 as a result of increased intracranial pressure induced by brain metastases (radiology confirmed). The primary tumour was a lung cancer. We present the therapeutic approach and the evolution of this case. The case particularity consists in the therapeutic response and long survival (58 months).*

Cuvinte cheie: *metastaze cerebrale, conduita terapeutică, supraviețuire mediană, cancer bronhopulmonar*

Rezumat: *Metastazele cerebrale sunt cele mai frecvente tumori solide intracraniene identificate la adult; apar ca rezultat al diseminării hematogene, la 10–30% dintre pacienții cu cancer în cursul vieții, și sunt descoperite în 25–40% din cazuri la necropsie. Metastazele cerebrale reprezintă o problemă dificilă de diagnostic și de management terapeutic pentru medicul curant, iar pentru pacient reprezintă o problemă emoțională, debilitantă fizic și care îi influențează într-o foarte mare măsură supraviețuirea. În lucrare este prezentată observația clinică a unui pacient în vârstă de 57 ani a cărui debut clinic în anul 2006 a fost printr-un sindrom de hipertensiune intracraniană, confirmat imagistic ca fiind determinat de metastaze cerebrale, cu punct de plecare un neoplasm bronhopulmonar. Este prezentată conduita terapeutică și evoluția acestui caz. Particularitatea cazului constă în răspunsul terapeutic și supraviețuirea de 58 luni.*

INTRODUCTION

Brain metastases represent the most frightening complication of malignancy, being an important cause of morbidity and mortality of the patients with cancer. Brain metastases occur in 20-40% of patients with cancer, being symptomatic intra vitam in approximately 60-70% of cases.(5)

Lung cancer is the most common and lethal malignancy. Lung cancer is a public health priority issue and an important topic of oncology debate.

In Romania, lung cancer is the main cause of death by cancer in males and ranks 4th in females.(3)

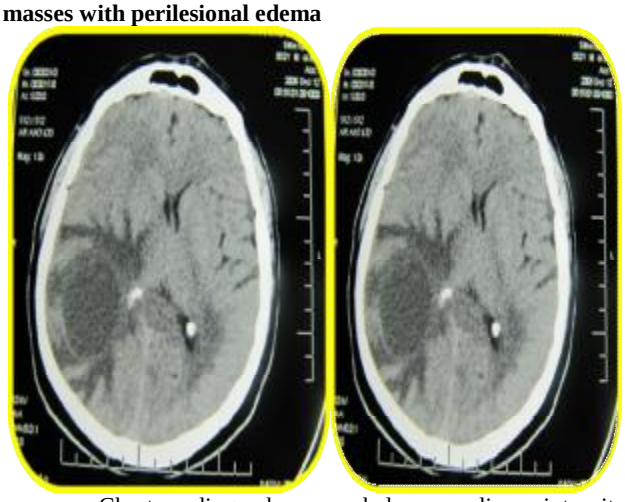
Lung carcinomas are responsible for 30% of all brain metastases. In one third of cases, brain metastases diagnosis precedes or is synchronous with lung tumours.(2) Untreated brain metastases causes progressive neurological symptoms, leading to coma and death within a time limit of one month. Under treatment, the median survival is between 3–8 months.

CASE STUDY

We present the clinical observation of the patient, S.L.L, of 52 years old, hospitalized on 2.XII.2006 in the Neurology Clinic of the Emergency County Hospital of Sibiu, presenting headaches for about a week, balance and locomotor disorders of the left limbs predominantly crural.

Computer tomography revealed nodular masses with important bilateral temporal with important perilesional edema suggesting brain metastases.

Figure no. 1. CT scan appearance of bilateral tumoral masses with perilesional edema



Chest radiography revealed a medium intensity homogeneous opacity with a diameter of approximately 3 cm parahilar in the right part.

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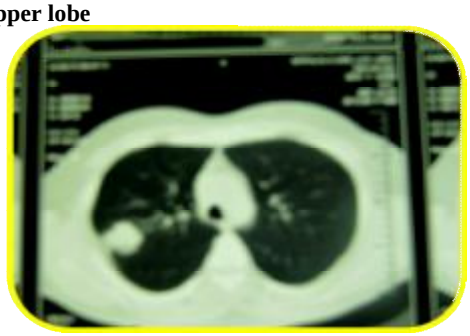
Chest computed tomography revealed an unhomogeneous formation, unique, polycyclic located in the right upper lobe.

Figure no. 2. CT scan appearance of polycyclic opacity in the right upper lobe



The case was interpreted as a stage IV lung cancer with brain metastases. The oncology committee decided on a palliative irradiation of the brain.

The patient has been irradiated in the department of oncology radiation on the engine Theratron Elite 100 by two parallel and opposite fields with a total dose of 30Gy/10 fractions, 12 days. Irradiation was well tolerated by the patient without incidents. At the end of the irradiation treatment, we obtained complete resolution of the neurological phenomena.

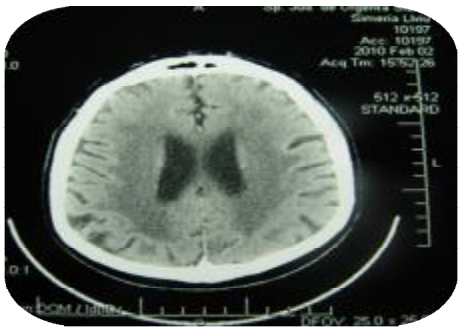
Further, the patient followed 6 cycles of multiple-type EP: VP16 100mg/m² day I – III, CDDP 80mg/m² day I – III.

The patient was supervised in the oncology clinic. The appearance of 24.I.2008 showed complete remission of the neurological phenomena and the chest computed tomography revealed partial remission of the primary tumour.

Figure no. 3. CT scan appearance of partial improvement of the tumoral opacity

Upon the evaluation from 29.II.2010, the patient presented slowness in thinking and accused a memory loss, phenomena that were interpreted as possible side effects of brain irradiation. Brain computed tomography did not show any space replacement masses.

Figure no. 4. CT scan appearance after irradiation



Chest control computed tomography revealed an unchanged aspect from the previous examination.

The same clinical appearance and imaging have been revealed at the evaluation made on 28.X.2011.

In January 2012, the patient returns for a check-up accusing dysphonia and dyspnea. Imaging investigations revealed the resumption of primary lung tumour evolution, so we resume the chemotherapy.

DISCUSSIONS

We presented the clinical observation of the patient S.L.L, aged 57 years old, who presented the onset of clinical symptoms of an intracranial hypertension syndrome. Imaging investigation, brain computed tomography revealed the existence of brain metastases and the chest computed tomography has highlighted the primary lung tumour.

Radiation therapy is the treatment of choice in the patients requiring the palliation of the neurological symptoms;(4) in the case we studied, we achieved a complete remission of the neurological phenomena.

The median survival of the patients with brain metastases is of 6–8 months.(5) The patient we studied is alive at 64 months from the irradiation treatment.

During the patient surveillance, we revealed slowness in thinking and memory loss. These phenomena are the late side effects of brain irradiation. In literature, the following are described as late side effects: decreased memory, dementia, brain necrosis after irradiation and leukoencephalopathy. Very few patients survive more than one year for these late side effects to manifest. Exceptions are the cases with single brain metastases. In our case, the long-term survival allows these late side effects to manifest clinically.

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