

INTRODUCTION

Leptomeningeal disease (LMD) is a challenging complication of breast cancer (BC) with limited treatment options and a prognosis of three to four months in most cohorts.

This case report describes the treatment of a patient with LMD at her initial diagnosis, evaluating its indication and clinical evolution

CASE REPORT

- Female patient, 68y at BC diagnosis, post-menopausal.
- Previous history: hysterectomy at 43y; hormone implants replacement therapy until diagnosis; pleuropulmonary fibroblastosis.
- Family history: a sister died of ovarian cancer at 40y (NGS for 25 germline mutations negative).

2018 INITIAL PRESENTATION

In March, the patient experienced bloating.

- Upper digestive endoscopy: normal.

In April, she was hospitalized due to ascites.

- Oncotic cytology: positive.
- Peritoneal biopsy confirmed carcinomatosis: GATA3 and estrogen/progesterone receptors [ER/PR] positive; CDX-2 and HER2 negative.

At initial staging: diffuse gastric thickening compatible with carcinomatosis. In the right breast, nodule measuring 1.6x1.0x0.8cm.

- Breast biopsy: invasive lobular carcinoma (ER 95%, PR 95%, HER2 negative, Ki67 15%).

2018 TREATMENT

In May: she received 5 cycles of Carboplatin + Paclitaxel with reduction in ascites and partial response (PR) at restaging.

In August: she came to our institution and was started on Palbociclib and Tamoxifen (as her estradiol levels were high due to hormone implants that were not able to be removed).

- However, at this time, diplopia was present, and she reported it had started before chemotherapy.
- Cranial MRI and Cerebrospinal fluid (CSF) cytology were requested.

2018-2019 LEPTOMENINGEAL DISEASE

In August:

- CSF cytology: positive for neoplastic cells.
- Cranial MRI: heterogeneous contrast uptake in the right cingulate gyrus with no parenchymal brain metastases (BM).
- She started intrathecal (IT) methotrexate (12mg).

October 2018: CSF was still positive, but there was improvement of diplopia.

January 2019: she completed 9 cycles of IT methotrexate (12mg).

February 2019:

- CSF: negative for neoplastic cells
- Cranial MRI: no suspicious findings for leptomeningeal disease

She remained on Tamoxifen and Palbociclib until 2021 with stable disease (SD) in the breast, with no other measurable site.

2019-2023 SUBSEQUENT TREATMENTS

January 2021: epigastric pain

- Endoscopy: duodenal infiltration, biopsy confirmed lobular BC -> Radiotherapy with resolution of her symptoms.
- Palbociclib was maintained and Tamoxifen was switched to Letrozole as her estradiol levels were undetectable.
- October 2021: new progression of duodenal disease -> Liposomal doxorubicin was administered for 6 cycles until April 2022 with PR.
- April 2022: Fulvestrant and Alpelisib (PIK3Ca mutation on NGS).
- June 2022: due to pneumonitis, Alpelisib was suspended .
- November 2022: Fulvestrant was also suspended due to continued worsening of pneumonitis -> treatment holiday
- April 2023: stable disease, measurable only in the breast.
- October 2023: she continued to worsen her previous pulmonary condition (pleuropulmonary fibroblastosis) and died.

DISCUSSION

The patient above presented non-bulky LMD, with no hydrocephalus, and no parenchymal BM, deriving clinical benefit with improvement in diplopia and survival of 59 months after the diagnosis of LMD. No relapse was observed in the central nervous system after IT therapy. The patient died from non-oncological causes with no disease activity while on drug holiday.

CONCLUSION

This patient with invasive lobular carcinoma and non-bulky LMD, no hydrocephalus and no parenchymal BM had a longer survival than most patients with LMD. She received both IT and systemic therapy. This case reinforces the importance of seeking appropriate criteria for selecting patients with potential benefit from treatment.