Complete clinical remission of stage IV breast cancer with liver, lung, bone and lymph node metastasis combining low-dose checkpoint inhibitors with interleukin-2 (IL-2) and fever range hyperthermia and metronomic low-dose chemotherapy

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Case Presentation

The patient initially presented with far advanced stage IV breast cancer pT3 pN2 M1 (bone, liver, lung) with Karnofsky index of 50% with serious neurological deficits from a large progressive skull metastasis which had started expanding and infiltrating the Dura Mater in spite of previous radiation.

We previously reported complete remission of far advanced lung metastasis in triple negative breast cancer at ITOC3 (Munich) 2016 and complete remission of inoperable esophageal Cancer ITOC4 (Prague) 2017; here we report a similar successful treatment.

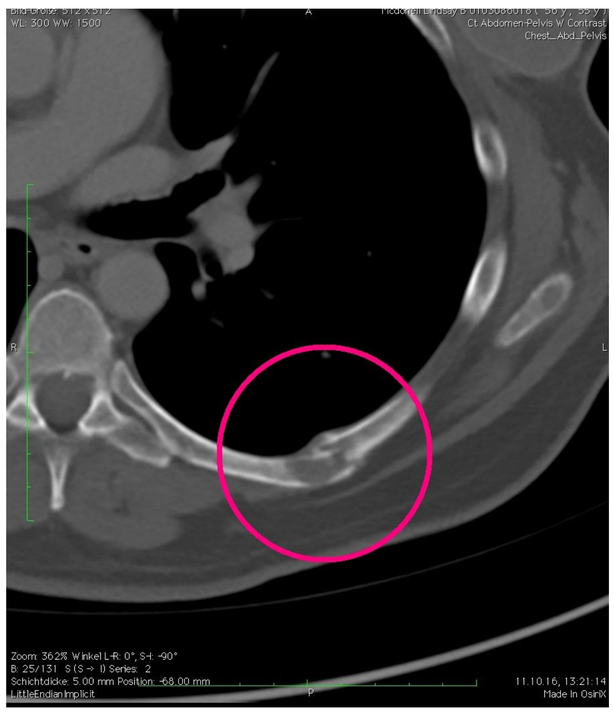
RESULTS

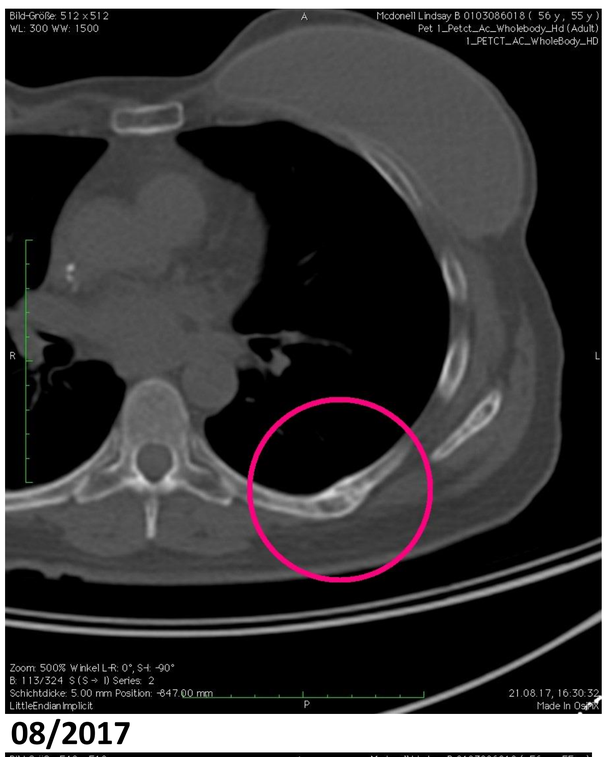
PET CT in 08/2017 as well as comprehensive restaging clinically and laboratory markers in 10/2017 demonstrated complete remission. Specifically, the previously described large bone metastasis in the parieto-occipital region infiltrating the dura mater no longer enhanced contrast fluid, bone metastasis in the right ileum as well as in the left 10th rib demonstrated consolidation and previously contrast enhancement; lung lesions no more visible; liver metastasis was regressive and demonstrated cystic changes.

Importantly, all cancer-related symptoms have vanished, and the patient demonstrates normalized tumour markers CEA and CA 15–3 which both were elevated previously. PET CT confirmed complete remission.

STAGING

11/2016 before treatment **02/2017**





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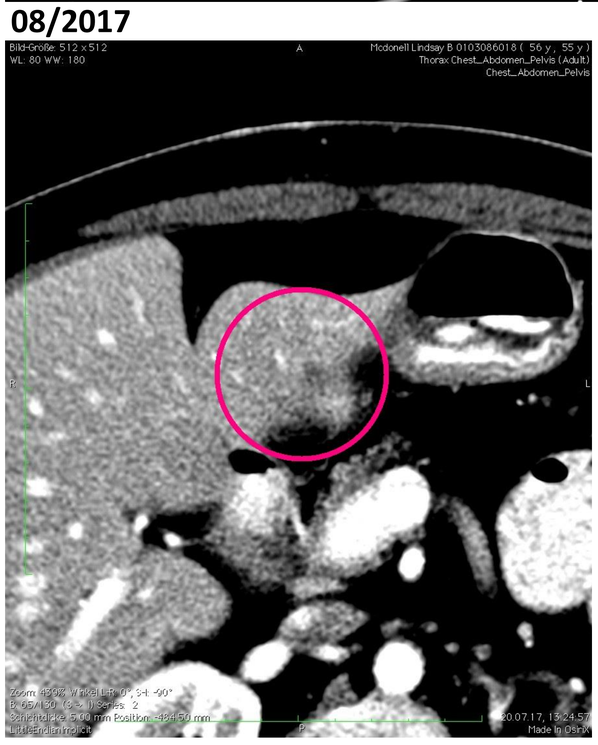


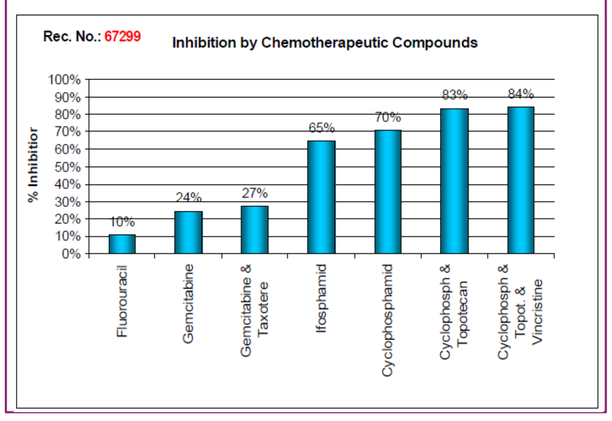
10/2016 **08/2017**

CONCLUSION

The unexpected remission of far advanced metastatic breast cancer following complex immunotherapy treatment including low-dose checkpoint inhibitors, IL-2, hyperthermia and metronomic chemotherapy warrants further clinical studies.

MATERIALS & METHODS

The patient underwent immunotherapy as described previously combining low-dose checkpoint inhibitor ipilimumab–nivolumab in combination with low dose interleukin (IL-2) treatment parallel to local regional and whole-body hyperthermia. Additionally low-dose metronomic chemotherapy was performed with Topotecan (05-1mg/m2) and Capecitabine 1000mg bid, 2w on/1w off following chemo sensitivity testing:



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