

## Case report.

# As the IGRT modifies the therapeutic workflow: from palliative to radical

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### Aims

To present a clinical case in which image-guided radiotherapy (IGRT) modifies the workflow and the purpose of the radiation treatment, from palliative to radical, in a patient with adrenal metastasis from lung cancer.

### Methods

65 years old male patient, former smoker, with lung adenocarcinoma, received surgery in April 2016 and adjuvant chemotherapy with Cisplatin and Vinorelbine until August 2016.

The computed tomography (CT), performed in November 2016, showed a metastasis of 2.5 cm in left adrenal. The next positron emission tomography not only confirmed this but also highlighted a radiopharmaceutical uptake in the right adrenal.

After one month, another CT detected a size increase in left adrenal lesion (5 x 4 cm) and the appearance of a right adrenal metastasis (2 cm). The patient underwent chemotherapy with Carboplatin and Etoposide but showed disease progression. In April 2017 radiotherapy consultations were conducted for these adrenal metastases, as they were the only metastatic sites since the onset of disease. Palliative treatment was performed on left (7.5 x 6.5 x 5 cm) and right (3 x 2.5 x 1.5 cm) adrenal lesions of total volume of 138 cc, with volumetric-modulated arc therapy and monoisocentric technique, for a total dose of 30 Gy in 10 fractions and daily IGRT (cone-beam computed tomography). At the eighth session, a significant reduction in the overall volume of lesions (60 cc) was appreciated. Adaptive radiotherapy followed. During treatment, the patient did not exhibit radiation-induced toxicity.

A week from the end of the treatment, CT showed a further reduction in lesions (5 x 4 x 2.3 cm and 1.2 x 1.5 x 0.6 cm), with a total volume of 32 cc.

Given the excellent response to treatment, a stereotactic boost of 10 Gy in single fraction was programmed.

1<sup>st</sup> RT session

8<sup>th</sup> RT session

Stereotactic boost



### Results and Conclusions

In this clinical case, the use of IGRT has played a decisive role in modifying the therapeutic workflow, allowing to perform unplanned adaptive radiotherapy and altering treatment purpose.