Interesting image

Meningeal carcinomatosis in a mucosecretory adenocarcinoma of the lung

Meningeal carcinomatosis is defined as malignant infiltration of the dura mater and the arachnoids membranes by cancerigenic cells. It may be observed in advanced phases of the disease and is one of the most severe complications, being frequent in lung cancer (15–25%). The subtypes with the greatest predilection for this presentation are adenocarcinoma and small cell carcinoma.¹

A 59-year-old male who underwent upper right lobectomy for a mucosecretor lung adenocarcinoma is presented. Prior to and after surgery the patient received complementary chemotherapy, achieving clinical and radiological remission.

In the follow-up at 10 years the patient presented contralateral pulmonary relapse confirmed by PET-CT and treated by left apical segmentectomy. Posterior evolutive controls showed a progressive increase in the serum tumor markers and the patient was again referred for cerebral PET-CT and whole-body scan without intravenous contrast 14 months after the intervention. A right hypermetabolic frontal lesion was observed next to the upper longitudinal sinus leading to suspicion of tumor recurrence and being confirmed by MRI. Following radiosurgery, tumor persistence vs residual lesion was considered. Six months later the patient was referred to our department for worsening of his clinical status and neurological symptoms of ataxia, dizziness, dysthymia and weakness of the lower limbs. Cerebral and whole-body PET-CT after the administration of 222 MBq of ¹⁸F-FDG with Philips Gemini TF-16 equipment showed multiple pathological deposits of the tracer in the cerebral hemispheres, most being located in the right frontal parasagittal territory next to the cerebral falx (localization of the initial metastasis) (Fig. 1). Small hypermetabolic deposits were observed in the lumbar rachis in the MIP of the whole body scan.

Fig. 1. (a) Cerebral maximum intensity projection (MIP) image showed multiple pathological glucose deposits in both hemispheres. (b) Meningeal deposits were observed in the lumbar rachis in the MIP of the whole body scan.

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point-shaped deposits of FDG were also seen along the spinal medulla in the dorsal, lumbar and sacral zones (Fig. 2) and were identified as possible metastatic implants in the meninges, leading to suspicion of meningeal carcinomatosis. MRI was simultaneously performed confirming nodular uptake of gadolinium of approximately 10 mm × 4 mm in the vertex posterior to the thecal sac at the height of T11 and in the sacral region compatible with meningeal implants (Fig. 3). The whole-body scan with

Fig. 2. (a) Foci of pathological uptake of 18F-FDG were observed in the sagittal slices of the lumbar and sacral regions (arrows). (b) Axial slices showed pathological uptake of 18F-FDG in the thoracic region (T11) (arrow).

Fig. 3. MRI showed a lesion in T11 and S1 related to the meningeal implants (arrows). (a) Dorsal sagittal T2 spin echo sequence. (b) Sagittal T1 sequence with fat saturation and with intravenous contrast. (c) Sagittal T2 spin echo lumbar sequence. (d) T1 lumbar-sagittal sequence with fat saturation and intravenous contrast.
PET-CT allowed the identification of these lesions even in the absence of diagnostic suspicion of the same.\textsuperscript{3}

\textbf{References}

