Choroidal metastasis from primary carcinoma are the most frequent intraocular neoplasia.\[1,2\] Lung in male and breast in female are the most common primary cancer of the choroidal metastasis.\[3\] Recently, the Spectral Domain OCT (SD-OCT) has been introduced for the observation of retinal changes associated.\[4,5\]

A 43-year-old man with bilateral visual reduction and metamorphopsiae was admitted reporting a primary lung adenocarcinoma diagnosed four month before with secondary lesions involving brain, liver, adrenal glands, and kidney with kidney failure. Fundus examination revealed 4 raised rounded, yellowish, and variable-sized lesions in the right eye (RE) [Fig. 1a] and a single lesion in the left eye (LE) [Fig. 1b] consisting with choroidal metastases. Ultrasonography showed lesions with moderate internal reflectivity and irregular structure with no vascularization [Fig. 1c]. The biggest lesion in RE was 2.0 mm × 2.3 mm, 1.7 mm × 2.2 mm in LE. Spectralis OCT (Heidelberg Engineering, Germany) revealed: (a) convex retinal profile, (b) multiple sub-retinal low-reflective areas consisting with serous neurosensory detachments, (c) displacement of the photoreceptor layer by sub-retinal fluid, (d) increase of the inner retinal layers structure with hyperreflective irregular spots on the RPE layer and under the neurosensory detachment (red arrows), (e) thickening of RPE-choriocapillaris complex, (f) increased macular thickness in both eyes.

Figure 1: (a) Four raised rounded, yellowish, and variable-sized lesions in the RE, (b) One single lesion in the LE, (c) Right eye ultrasonography: Perimacular lesion with moderate internal reflectivity and irregular structure.

Figure 2: (a, b) Spectralis OCT radial scans crossing the macula in the right and left eye. C, D) Details showing the following findings: (a) convex retinal profile, (b) multiple subretinal low-reflective areas consisting with serous neurosensory detachments (asterisks), (c) displacement of the photoreceptor layer by subretinal fluid (black arrows), (d) change of the inner retinal layers structure with hyperreflective irregular spots on the RPE layer and under the neurosensory detachment (red arrows), (e) thickening of RPE-choriocapillaris complex, (f) increased macular thickness in both eyes.
(d) change of inner retinal layers structure with hyper-reflective irregular spots on the Retinal Pigment Epithelium (RPE) and under the neurosensory detachment, (e) thickening of RPE-choriocapillaris complex, (f) increased macular thickness in both eyes (400 µm in the RE and 290 µm in the LE) [Fig. 2a-d]. Sub-retinal fluid might be secondary to RPE breaking and may depend on duration and aggressiveness of choroidal lesion. Hyper-reflective dots observed may correspond to areas of damaged RPE or neuroepithelium with accumulation of macrophages retaining lipofuscin or melanin granules. In conclusion, SD-OCT allowed the evaluation in detail of the retinal changes secondary to choroidal metastases, although the ultrasonography still remains the most appropriate tool to measure the lesion size. Further investigations with histopathological correlation will be necessary to confirm our results.

References