Unusual 18F-FDG PET-CT finding of paraneoplastic polymyositis in a patient with lung epidermoïd carcinoma

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We report the case of a 67 years old male patient, followed for epidermoid carcinoma of the right lung, and hyper-eosinophilia on peripheral blood exploration. 18F-FDG positron emission tomography-computed tomography (18F-FDG PET-CT) performed for initial extension assessment showed, in addition to the intense hypermetabolism in the right upper pulmonary lobe related to the primary tumor and the mediastinal lymph node involvement (Fig. 1A), an unusually intense muscular hypermetabolism.

Figure 1. A. Maximum intensity projection PET image revealing intense hypermetabolism in the right upper pulmonary lobe related to the primary tumor associated to mediastinal lymph node involvement with unusual intense hypermetabolism interesting long muscles of the neck, sterno-cleido-mastoid muscles, para-vertebral, iliac and ilio-psoas muscles. B. Whole body CT image and (C) 18F-FDG PET-CT fusion image in sagittal sections showing intense and symmetric hypermetabolism in ilio-psoas muscles.
Clinical vignette

Biopsy of the right ilio-psoas muscle showing myofiber degeneration with predominant inflammatory cell (CD8+ T lymphocyte) compatible with paraneoplastic polymyositis (Fig. 2). Serum CK (creatine kinase), aldolase and sedimentation rate levels were abnormally very high.

Our patient was put under corticotherapy with good clinical, biological and radiological evolution, even on 18F-FDG PET-CT.

In our knowledge, a link between paraneoplastic polymyositis and cancer has never been clearly defined [1–2], and its clinical expression does not differ from idiopathic polymyositis [3]. Clinicopathologic diagnosis is based on histology, electromyographic data, high-level serum of muscular enzymes (creatine kinase, aldolase), and also an elevated sedimentation rate [4]. This group of patients can be treated by corticotherapy or immunomodulators, and also by physiotherapy [5].

References