Organising pneumonia and mesenteric plasmocytoma: A fortuitous association?

Plasmocytome mésentérique et pneumopathie organisée : une association fortuite ?

Pathophysiologically [1] organising pneumonia (OP) involves filling of the lumen of the distal air spaces by tissue containing inflammatory cells, fibroblasts and myofibroblasts in a relatively non-dense extracellular matrix. Its particular feature is its low content of type I collagen, probably explaining why the intra-alveolar structures are reversible. It has three clinical forms, the most classical of which involves multiple alveolar opacifications mimicking infectious pneumonia and often migratory (formerly known as bronchiolitis obliterans organizing pneumonia [BOOP]): the two other, rarer forms, are the pseudoneoplastic nodular forms (with single or multiple nodules) and the infiltrating form. The standard treatment is corticosteroid therapy to which they are generally sensitive. The occasional relapses can be treated with immunosuppressants including cyclophosphamide and azathioprine. The diagnosis requires a lung biopsy. OP can be cryptogenic (with no identified cause) or may occur in defined situations: medicinal products, infections and connective tissue diseases. Haematological diseases can occasionally be associated with OP. We describe the case of a 66-year-old female patient who presented with concomitant nodular OP and mesenteric plasmocytoma.

**Case**

A 66-year-old woman with a past history of previously resolved hepatitis A, an uncomplicated left Sylvian fissure ischaemic CVA, hypertension and a past smoker of 30 packet/years presented with atypical chest pain. Clinical examination was strictly normal and in particular she had no peripheral lymphadenopathy. Her general health was good and she had no pruritus or fever. Laboratory investigations showed dissociated inflammatory markers with an ESR of 100 and normal CRP. Protein electrophoresis showed a monoclonal gammopathy (immunoglobulin M kappa), of 26 g/L, with no anaemia and normocalcaemia. Free serum and urine light chains were negative and blood lymphocyte immunophenotyping showed no abnormal populations. Two bone marrows with immunophenotyping did not show plasmocyte proliferation. The bone marrow biopsy revealed a quantitatively minor infiltrate of CD20+ lymphocytes and CD138-, kappa+ plasmocytes. She had no cytogenetic abnormalities suggesting a blood dyscrasia. Bone radiographs did not show any bony lesions and a lung radiograph revealed two parenchymal nodules. Chest and abdominal CT scan revealed multiple parenchymal nodules mostly sub-pleural, the largest of which (20 × 18 mm) was in the right posterobasal region and was associated with a 15 mm left basal sub-pleural nodule, a 15 mm right basal nodule and a 6 mm mediobasal nodule. In her abdomen she had a retroperitoneal tissue mass of 94 × 40 mm surrounding the aorta and inferior vena cava and extending to the mesentery. FDG scintigraphy showed dissociated fixation between the retroperitoneal mass with low activity (figure 1) and the pulmonary nodules which showed high metabolic activity predominantly in the right and left lower lobes and in the right upper lobe, not seen on the initial imaging (figure 2). A surgical biopsy was taken from the mesenteric mass and showed typical appearances of a plasmocytoma (CD79+ , CD138+, CD20- , kappa+, lambda–). Bronchoscopy was macroscopically normal and a BAL showed moderate hypercellularity with a florid lymphocytic (25%) and neutrophil (15%) alveolitis with cytology suggesting acute non-suppurative inflammation and no malignant epithelial or lymphoma cells. Microbiological investigations were negative. Respiratory function tests were not performed. A microbiopsy was taken from the left lower lobe nodule and showed granulations in the distal pulmonary air space lumen with lesions predominantly in the alveoli appearing as proliferative bronchiolitis obliterans and suggesting a sub-acute OP (figure 3). There was no evidence of viral or other infection (Gram staining, Grocott and anti-CMV antibodies were negative). Similarly, no evidence was found for malignant, particularly plasmocyte, infiltration. A diagnosis of mesenteric plasmocytoma associated with nodular OP was made and she was given radiotherapy (40 Grays fractionated over 4 weeks) for the mesenteric plasmocytoma. After 6 months follow-up the lesion has regressed almost completely on CT scan with residual post-radiotherapy appearances. Investigations into the cause of the OP did not reveal any infection. Her perindopril, indapamide and ezetimibe were stopped on the assumption of a possible drug-induced cause. The patient has no pulmonary symptoms (her chest pain had disappeared), we decided on a watchful waiting approach. Repeat CT scan at 3 months showed that some of the nodules...
had disappeared and others had developed. The lesions were stable at 6 months (figure 4).

**Discussion**

Mesenteric plasmocytoma is a rare site for extra non-bone marrow extramedullary plasmocytomas (EMP). This case is particularly rare because of the absence of criteria for multiple myeloma and the mesenteric site of the disease. According to the review by Dimopoulos et al. [2], EMP make up only 3% of blood tumours and 85 to 90% are located in the upper respiratory tract (particularly in the bucconasal region). Only occasional publications have described other sites of the disease including mesenteric, pulmonary, urinary tract, thyroid, testicular and ovarian [3]. Clinical features are not particularly suggestive and are very variable (abdominal pain, cholestatic jaundice, haematuria due to compression and thrombosis of the renal vein, etc.) and several diagnostic criteria have been proposed [4]: typical biopsy appearances of the plasmocyte tumour, no bone lesions or disease of other tissues, bone marrow infiltration of less than 5% of all cells, no hypercalcaemia or renal insufficiency. A plasma monoclonal band does not exclude the diagnosis and may be associated with benign plasmocyte proliferation (secretory EMP). This is found in 25% of cases [3], as it was in our patient. Usual imaging (abdominal CT, MRI) cannot distinguish plasmocytoma from lymphoma or a solid tumour and histological evidence is therefore required (identifying CD38 expression and a monoclonal light chain). Retrospective 10-year series [5] have reported that 30% of cases in initially solitary disease (15 to 20% in the first 2 years) are complicated by development of multiple myeloma, whereas the remaining 70% of cases remain non-progressive. Treatment is poorly defined. The tumours are very

**Figure 1**
FDG scintigraphy showed low activity of the retroperitoneal mass (appearances from Nuclear Medicine, University Clinic, CHU de Grenoble [Grenoble University Hospital])

**Figure 2**
Multiple hypermetabolic nodules on PET-scan (appearances from Nuclear Medicine, University Clinic, CHU de Grenoble [Grenoble University Hospital])
radiosensitive (less than 10% local recurrence and complete remission at 10 years is obtained in 50 to 65% of patients according to Liew’s group [6]). Studies have shown that initial radiotherapy alone is as effective as excision surgery [7], which could therefore be reserved for disease which does not respond to radiotherapy. Adjuvant chemotherapy has not been shown to be effective. A radiotherapy dose of 40 Grays (20 sessions) produced complete regression of the lesion with no recurrence after follow-up for 6 months in our patient.

OP is polymorphic in presentation and is usually seen in people between 50–60 years old. It is unrelated to sex or smoking status. Clinical features may involve only chest pain or a flu-like syndrome with occasional sparse crepitations. Laboratory tests often show a large inflammatory response. OP can only be described as cryptogenic if no causes are found, particularly infection, iatrogenic causes, neoplasia or connective tissue disease (particularly rheumatoid arthritis and inflammatory myopathy) [8]. The first cases of OP were diagnosed in the 1910s at autopsy [9]. Currently, the diagnosis is made from a surgical lung biopsy under video-thoracoscopy control, mini-thoracotomy or occasionally by transbronchial biopsy. In some cases, lung biopsy is not essential if the radiological and clinical appearances are characteristic and the broncho-alveolar lavage is compatible with the diagnosis [1]. In this case the diagnosis is then made from the patient’s improvement on corticosteroid

**Figure 3**
Intra-alveolar fibroblast budding respecting the lung architecture, some rounded, some drawn out in a “butterfly wing” (HES, original magnification x 100, department of pathological anatomy and cytology, CHU de Grenoble [Grenoble University Hospital])

**Figure 4**
Evolution of organising pneumonia by chest CT-scan. On the top, four different nodules at the moment of the diagnosis. On bottom, evolution 6 months later with some of the nodules had disappeared and others had developed (department of radiology, CHU de Grenoble [Grenoble University Hospital])
therapy. In our case the diagnosis was made from a transthoracic pulmonary microbiopsy as the sample was of sufficient size (with 2, 6 and 8 mm long cores). Presentation in the histologically characteristic nodular form as we saw in our patient is a rare form of OP (in the region of 5 to 10%) [10]. All publications emphasise the dramatic corticosteroid sensitivity of the OP using a regimen described by the GERMOP group for study and research into orphan lung diseases [11]. Patients generally recover completely without complications although it may occasionally progress to pulmonary fibrosis. In severe forms of the disease some groups recommend intravenous bolus methylprednisolone treatments, followed by an oral dose of 1 mg/kg/d. If corticosteroid therapy alone is insufficient (3 to 5% of cases depending on the series), usual practice is to add a cytostatic treatment (particularly cyclophosphamide). Because the OP had no systemic or respiratory consequences we did not use corticosteroid therapy in our patient.

The association of mesenteric plasmacytoma with OP is exceedingly rare: the retrospective series reported by Gupta et al. [12] only found BOOP in two patients suffering from malignant blood dyscrasias and the specific association with plasmacytoma has never to our knowledge been reported.

OPs have a histological definition and generally produce characteristic radiological and clinical appearances. The pseudoneoplastic nodular form is rare. OP secondary to haematological diseases (acute or chronic leukaemia, myelodysplastic syndrome, etc.) has been described. We have not found any cases of OP associated with plasmacytoma in the literature although the association of these two diseases is probably not fortuitous.

Disclosure of interest: the authors declare that they have no conflicts of interest concerning this article.

References


Scrofuloderma avec hypersensibilité à la rifampicine et au pyrazinamide, traité par quadrithérapie incluant l’ofloxacine

Scrofuloderma with hypersensitivity to rifampicin and pyrazinamide, treated with a combination therapy including ofloxacin

Parmi les formes extrapulmonaires de la tuberculose (TBC), l’atteinte cutanée est une des plus rares. Le traitement de la TBC cutanée rejoint celui de la forme pulmonaire et peut ainsi conduire aux mêmes effets indésirables qui peuvent être graves. L’utilisation d’antituberculeux (ATBC) de deuxième ligne dans la TBC cutanée est rarement rapportée et l’efficacité de ces médicaments est, de ce fait, inconnue en dermatologie.

Observation

Une patiente âgée de 26 ans nous a consultées pour un nodule sous-cutané indolore au niveau de la région sus-sternale,