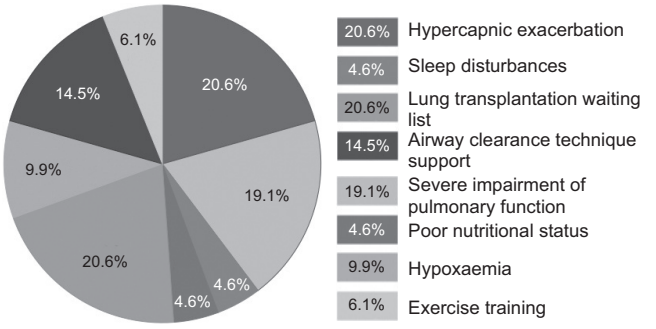

FIGURE 1. The main criteria for noninvasive ventilation initiation according to physiotherapists.

in its management. According to respondents, NIV was the first-line treatment to improve gas exchange (89%) and was a valid tool as support to clearance techniques (68%) and to exercise training (43%). The main criteria to propose NIV, according to physiotherapists who use NIV (n=28), were hypercapnic pulmonary exacerbation, awaiting lung transplantation, severe impairment of pulmonary function and difficulties experienced with clearing secretions (fig. 1). Almost all interviewees agreed that NIV was part of the ''core competence'' for physiotherapists who work in CF centres (95%) and clinics (85%). A detailed picture revealed that 71% (n=20) of them chose ventilators, 96% were involved in the crucial choice of interfaces and 75% were in charge of ventilator settings. The majority (93%) took care of patients' comfort and compliance enhancement and set frequent follow-ups to periodically review patients and, thus, improve their adherence. Although there are some limitations, this is the first Italian study that explores how physiotherapists are involved in the NIV management in CF centres and their expectations and beliefs about the benefits of NIV. Despite the absence of standard protocols and guidelines, Italian CF centres and clinics take into consideration the therapeutic use of NIV and physiotherapists are involved in its use. According to our results, the rationale of adopting NIV as a therapeutic choice in CF as perceived by physiotherapists is in line with what the literature has recently suggested [5]. Harmonising the core competencies of physiotherapists all over Italy and the NIV management of CF patients is, however, still urgently needed.

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Penicillium marneffei presenting as an obstructing endobronchial lesion in an immunocompetent host

To the Editors:

Penicillium marneffei was first isolated in 1956 from the liver of the Vietnamese bamboo rat [1]. It is recognised as an emerging infection among HIV-infected patients in South East Asia, where it typically presents as cutaneous lesions, fever, lymphadenopathy and hepatosplenomegaly [2]. Indeed, in this population, it is now the third most common opportunistic infection [3]. Penicilliosis is a rare disease in immunocompetent hosts. It has been previously described in patients with comorbid conditions such as connective tissue diseases and haematological malignancies. Although inhalation of the conidia is thought to lead to disseminated infection, a primary pulmonary presentation is unusual. We describe a unique presentation of systemic *P. marneffei* infection in an immunocompetent host presenting with an endobronchial tumour-like lesion and post-obstructive pneumonia.

A 45-yr-old, previously well male was referred to our hospital for further investigation of fevers, lymphadenopathy and pulmonary infiltrates. The patient described a 4-month history of intermittent drenching night sweats, cough and posterior cervical lymphadenopathy against a background of a recent bicycle tour of Laos and Vietnam. There was no significant family history, no significant occupational exposure and a trivial smoking history. The patient was initially investigated at a regional hospital with apparently normal chest and abdominal imaging and mild eosinophilia on a peripheral blood film. Excisional biopsy of an enlarged cervical lymph node demonstrated caseating granulomas with no evidence of

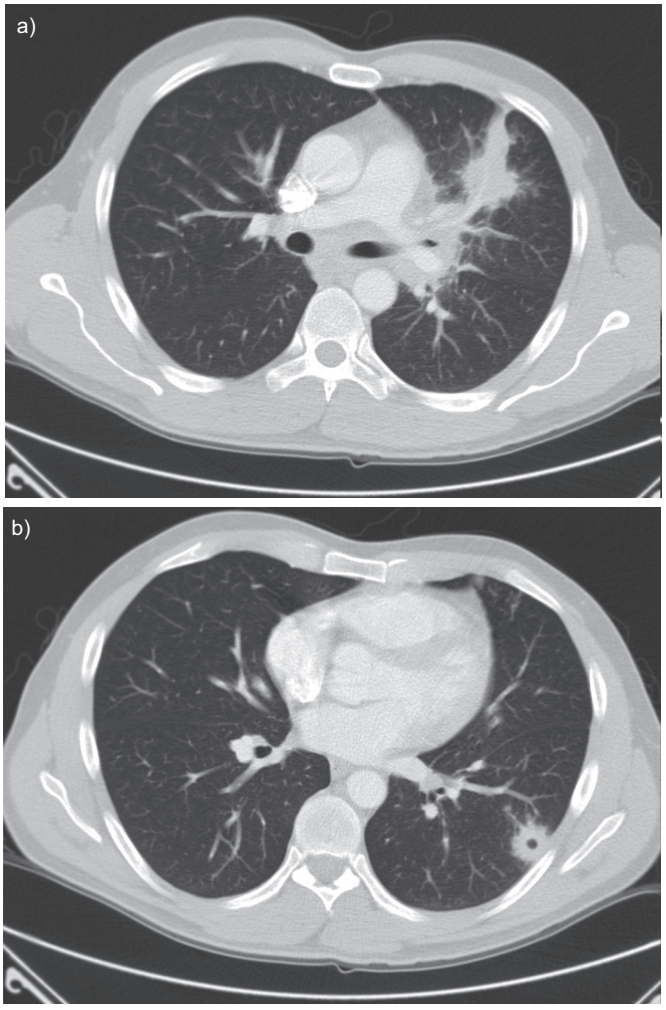

FIGURE 1. Chest computed tomography demonstrating a) lingular consolidation and b) a necrotising left lower lobe nodule.

bacteria or fungi on staining and no clonal proliferation on flow cytometry. Culture for acid-fast bacilli was not requested and the patient was treated with a course of empirical sulfamethoxazole/trimethoprim by a local physician. He eventually re-presented with dry cough, recurrent fevers and left sided pleuritic chest pain. Computed tomography demonstrated resolution of cervical lymphadenopathy but interval development of pulmonary infiltrates and mediastinal lymphadenopathy (fig. 1). Further investigations revealed an elevated C-reactive protein level and a persistent mild peripheral eosinophilia (0.7×10^9 eosinophils·L^{-1}).

Following referral to our service, the patient underwent fibreoptic bronchoscopy, which demonstrated a large polypoid lesion at the orifice of the lingular lobe (fig. 2).

The lesion was subsequently excised using argon plasma diathermy. Histopathological examination demonstrated caseating granulomas and culture revealed *P. marneffei*. Bronchoalveolar lavage of the left upper lobe also demonstrated *P. marneffei* on culture. Culture of the mass lesion and bronchoalveolar lavage was negative for acid-fast bacilli. PCR testing of these samples was also negative for *Mycobacterium*.

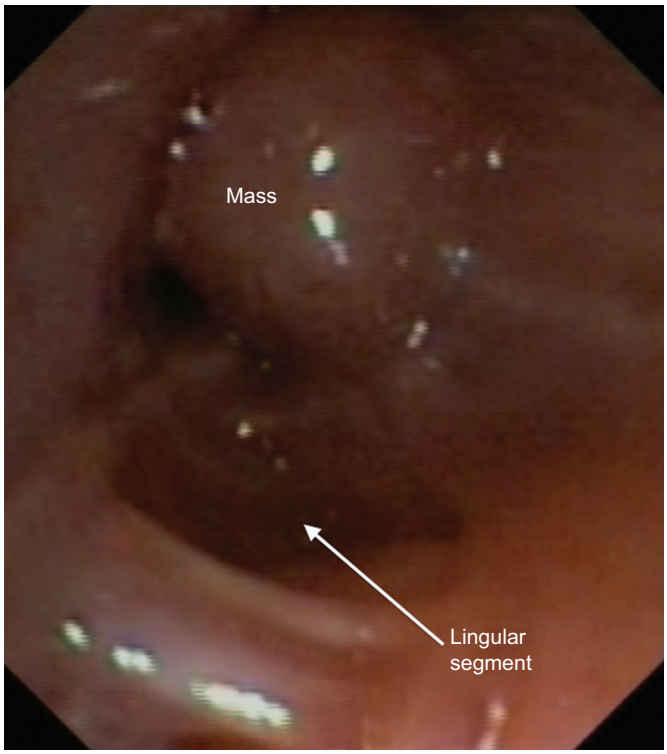

FIGURE 2. Endobronchial image showing the lingular lobe and obstructing mass.

Testing for immune deficiencies demonstrated no evidence of HIV or other blood-borne viruses on serial testing. Peripheral lymphocyte subsets and γ-globulins were within normal limits, and there was no clinical or serological evidence of a connective tissue disease or vasculitis. Neutrophil oxidative burst and phagocytosis function was normal. The patient recorded an indeterminate result in a QuantiFERON®-TB Gold In-Tube test (Cellestis, Chadstone, Australia).

The patient was subsequently admitted for intravenous amphotericin B therapy. During this course of in-patient treatment, the patient developed both pericardial and pleural effusions. These were drained percutaneously, were inflammatory in nature and did not demonstrate *Penicillium* on culture. The fluid from both sites was also culture negative for acid-fast bacilli. The patient was eventually discharged on oral itraconazole therapy with gradual resolution of symptoms, inflammatory markers and radiological changes.

Infection with *P. marneffei* was rare prior to the HIV epidemic. However, in South East Asia, it now represents the third most common presenting illness in AIDS sufferers. *Penicillium* is thermally dimorphic, growing as a mycelium at 25°C and as a yeast at 37°C. Thermal switching enhances its virulence, with the infectious conidia forming from the mycelial state and, once inhaled, switching to the yeast form.

There are very few published data regarding the treatment of penicilliosis in non-HIV-infected patients. Our patient was treated with amphotericin intravenously for 14 days, followed by oral itraconazole. This regimen has been widely used in the treatment of HIV-infected patients and, in our case, led to significant clinical improvement.

TABLE 1 *Penicillium* in non-HIV patients

Subjects n	Underlying condition	Resident of or travel to Asia	First author [ref.]
1	61-yr-old male; lymphoma	Yes; not specified	DiSalvo [4]
5	6-yr-old female; no underlying condition	Thailand	Jayanetra [5]
	35-yr-old male; TB		
	50-yr-old female; no underlying condition		
	38-yr-old male; no underlying condition		
	Female, 7 months pregnant (age not published); SLE		
1	59-yr-old male; no underlying condition	Yes; not specified	Pautler [6]
1	11-yr-old male; no underlying condition	Hong Kong, China	Yuen [7]
14#	Comorbidities not listed	China	Deng [8]
1	51-yr-old female; no underlying condition	China	Chan [9]
1	29-yr-old female; SLE	Hong Kong, China	Lo [10]
1	65-yr-old female; SLE	Hong Kong, China	Lam [11]
7	T-cell lymphoma	Hong Kong, China	Wong [12]
	Waldenström's macroglobulinaemia		
	Sjögren's syndrome		
	SLE		
	Autoimmune haemolytic anaemia		
	Diabetes mellitus		
	No underlying condition		
1	38-yr-old male; renal transplant	Hong Kong, China	Chan [13]
3	2 patients; renal transplant	Hong Kong, China	Wu [14]
	1 patient; hepatitis B		
1	3-yr-old male; hypergammaglobulinaemia	Thailand	Sripa [15]
1	42-yr-old female; renal transplant	Taiwan	Lin [16]
1	46-yr-old female; SLE	China	Luo [17]

TB: tuberculosis; SLE: systemic lupus erythematosus. #: Deng *et al.* [8] reported 22 cases but eight of these are reported separately under their original authors.

Cases of penicilliosis in non-HIV-infected patients are rare. Our review of the literature demonstrated 39 cases of penicilliosis in non-HIV patients (table 1). Notably, the majority of these patients had comorbid conditions affecting immune function or necessitating immunosuppressive treatments. Within the non-HIV population, a primary pulmonary presentation is unusual. There are no cases in the literature that describe the presence of a tumour-like mass and post-obstructive pneumonia.

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Surfactant protein A in chronic extrinsic allergic alveolitis

To the Editors:

The chronic form of extrinsic allergic alveolitis (EAA) may have some common features with idiopathic pulmonary fibrosis (IPF). The clinical, radiological and histopathological presentation of both diseases may be similar. Surfactant protein (SP)-A can be detected in serum of patients with IPF and concentrations of SP-A were found to be elevated in these patients [1]. The aim of the present study was to compare serum SP-A concentrations in IPF and chronic EAA patients and detect possible relationships between SP-A levels, bronchoalveolar lavage (BAL) fluid differential cell counts, high-resolution computed tomography (HRCT) patterns and pulmonary function tests in both diseases.

13 patients with chronic EAA and seven patients with IPF were enrolled in the retrospective study after informed consent was obtained. The mean$\pm$SD age of IPF patients was 63.7$\pm$12.4 yrs and the mean$\pm$SD age of the EAA group 60.3$\pm$11.3 yrs. Only one IPF patient was a smoker, all others were nonsmokers.

All of the enrolled subjects underwent a diagnostic programme including history assessment, physical examination, pulmonary function tests, blood tests including evaluation of SP-A serum concentrations, HRCT of the chest, bronchoscopy with BAL and transbronchial biopsy. HRCT alveolar and interstitial scores were assessed according to the criteria of GAY *et al*. [2] by a pneumologist experienced in radiology.

Patients with IPF who fulfilled diagnostic criteria presented in the official American Thoracic Society/European Respiratory Society/Japanese Respiratory Society/Latin American Thoracic Association statement were included [3]. There are no widely accepted diagnostic criteria for chronic EAA, so data obtained by aforementioned procedures have to be evaluated with care.

Serum samples were collected in the same month as pulmonary function tests and HRCT of the chest were performed. Serum SP-A concentrations were measured according to manufacturer's instructions (Human Surfactant Protein A ELISA; BioVendor, Brno, Czech Republic).

Results are expressed as mean$\pm$SD. Differences between two variables were assessed with the Mann–Whitney U-test. p-values <0.05 were regarded as significant. Spearman's correlation was used to analyse correlations between pulmonary functions, HRCT scores and SP-A serum concentrations.

Pulmonary function tests, HRCT scores, BAL fluid samples and SP-A serum concentrations are summarised in table 1.

We found negative correlation between forced vital capacity (FVC) and SP-A serum concentrations in IPF patients ($p<0.01$). The chronic EAA group exhibited negative correlation between FVC ($p<0.05$), diffusing capacity of the lung for carbon monoxide ($D_{L,CO}$) ($p<0.01$) and BAL fluid eosinophils, and positive correlation between HRCT interstitial score and BAL fluid eosinophils ($p<0.01$).

While the radiological pattern of IPF should not contain extensive areas of ground-glass opacities, these might be present in chronic EAA patients and usually represent potentially reversible alveolitis indicating continuous exposure to inhalation antigen. TILLIE-LEBLOND *et al*. [4] presented, in their recent study, patients with chronic progressive EAA presenting with ground-glass opacities on HRCT scans. In accordance with IPF radiological definition, we found significantly lower HRCT alveolar score in the IPF group than in chronic EAA patients ($p<0.01$). Interstitial score did not differ between both groups, giving evidence for similar extent of fibrotic changes.

Despite the fact that chronic EAA patients showed more advanced deterioration on HRCT, they had significantly higher $D_{L,CO}$ than IPF patients ($p<0.01$). $D_{L,CO}$ is also influenced by alveolar volume, which is known to be reduced in IPF patients. We found no difference in $D_{L,CO}$ when adjusted for alveolar volume between both groups.

In EAA histology specimens, staining for SP-A was positive in the cytoplasm of all regenerating alveolar epithelial cells, in Clara cells and in elastic fibres in vascular walls. Areas of impaired pulmonary structure showed SP-A positivity in