LETTER

Combined pulmonary fibrosis and emphysema syndrome associated with familial SFTPC mutation

The syndrome of combined pulmonary fibrosis and emphysema (CPFE) in adults has not been previously associated with mutations of the surfactant protein-C (SFTPC) gene.

A 32-year-old woman, never smoker, presented with dyspnea and dry cough, 3 days after a cesarean delivery. Physical examination revealed finger clubbing and bilateral basal crackles. There was no manifestation indicative of connective tissue disease. High-resolution computed tomography (HRCT) of the chest showed conspicuous centrilobular emphysema in the upper zones of the lungs, and diffuse, infiltrative lung disease in the lower zones (figure 1). Emphysema was apparent even in areas devoid of infiltrative changes. The bronchoalveolar lavage differential cell count was 57% neutrophils, 40% macrophages and 3% lymphocytes. Pulmonary function test results 3 months later were forced vital capacity, 62% of predicted value; total lung capacity, 77%; forced expiratory volume in 1 s, 60%; forced expiratory volume in 1 s/vital capacity, 85%; residual volume, 108%; carbon monoxide diffusing factor, 33%; PaO2 on room air, 11.3 kPa; PaO2 after 10-min exercise of 35 W, 7.3 kPa. Video-assisted lung biopsy (see online material) demonstrated disseminated fibrotic thickening of the interalveolar septa, numerous fibroblastic foci, with areas of dense collagen deposition of peri-bronchial predominance, and peri-bronchial emphysema, especially in the upper zones. Echocardiography showed normal heart cavities, with estimated systolic pulmonary arterial pressure of 40 mm Hg. Anti-nuclear antibodies with a nucleolar pattern were further characterised as anti-fibrillarin antibodies. Alpha-1 antitrypsin level was normal. The patient received oral prednisone for 3 months with no improvement. Two years after presentation, chest HRCT and pulmonary function tests had worsened. The patient declined treatment.

A girl born to this patient was diagnosed to have interstitial lung disease 3 months later (see online material). Her condition improved with oxygen and corticosteroid therapy.

After informed consent was obtained, sequencing of the five translated exons of the SFTP gene1 from blood samples demonstrated the same heterozygous I73T substitution in both the child and the mother; neither of them had mutation of the SFTPB and ABCA3 genes.

This is the first report of a phenotype of CPFE syndrome in an adult patient carrying a mutation of the SFTPC gene. The patient had fibrosing interstitial pneumonia, with HRCT pattern suggestive of nonspecific interstitial pneumonia, and unclassifiable pathology. Emphysematous foci were remarkably apparent on imaging and pathologically in the vicinity of peribronchial fibrosis. The clinical presentation of the infant was comparable to that described previously.1,2 Interestingly, multiple lung cysts associated with septal thickening and ground glass opacities have been reported in subjects with familial pulmonary fibrosis carrying SFTPC mutations.3,4

The putative pathophysiology of SP-C-associated disease involves the dysfunction of surfactant homeostasis, causing injury or death of alveolar epithelial type II cells and myofibroblast proliferation. A process of genetically mediated alveolar injury may conceivably contribute to emphysema in addition to inflammation and fibrosis, and thus to the CPFE phenotype. As an auto-antibody was detected, a forme fruste of connective tissue disease may also have contributed to the lung disease.5

Adults with CPFE syndrome may have an underlying genetic predisposition. This hypothesis needs confirmation in further studies.

Vincent Cottin,1,2 Philippe Reix,3 Chahéra Khouatra,1 Françoise Thivolet-Béjui,4 Delphine Feldmann,5 Jean-François Cordier1,2

1Hospices Civils de Lyon, Hôpital Louis Pradel, Service de pneumologie — Centre de référence des maladies pulmonaires rares, Lyon, France; 2Université de Lyon, Université Lyon 1, INRA, UMR754, IFR 128, Lyon, France; 3Hospices Civils de Lyon, Groupement hospitalier est, Service de pédiatrie, Lyon, France; 4Hôpitaux universitaires, Lyon, Groupement hospitalier est, Centre de biologie et pathologie est, Lyon, France; 5Assistance publique Hôpitaux de Paris, Hôpital Armand Trousseau, Laboratoire de biochimie, Paris, France

Correspondence to Vincent Cottin, Hôpital Louis Pradel, Service de pneumologie, Lyon (Bron) Cedex 69677, France; vincent.cottin@chu-lyon.fr

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

Accepted 9 December 2010


doi:10.1136/thx.2010.151407

REFERENCES

Combined pulmonary fibrosis and emphysema syndrome associated with familial SFTPÇ mutation

Vincent Cottin, Philippe Reix, Chahêra Khouatra, Françoise Thivolet-Bêjui, Delphine Feldmann and Jean-François Cordier

Thorax published online January 19, 2011

Updated information and services can be found at:
http://thorax.bmj.com/content/early/2011/01/19/thx.2010.151407

These include:

Supplementary Material
Supplementary material can be found at:
http://thorax.bmj.com/content/suppl/2010/12/14/thx.2010.151407.DC1

References
This article cites 5 articles, 1 of which you can access for free at:
http://thorax.bmj.com/content/early/2011/01/19/thx.2010.151407#BIBL

Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/