Lung (2015) 193:855–857
DOI 10.1007/s00408-015-9772-0

Placental Transmogrification of the Lung

Bruno Hochhegger[1] · Spencer Camargo[1] · José Camargo[1] · Miriam Menna Barreto[2] · Gláucia Zanetti[2] · Edson Marchiori[2]

Received: 12 July 2015 / Accepted: 19 July 2015 / Published online: 26 July 2015

Case Report

A 44-year-old nonsmoking woman presented with the complaints of cough, progressive dyspnea, and chest pain. She denied fever, chills, and weight loss. Laboratory test results were normal. Chest radiography showed a cystic lesion in the left lung. High-resolution computed tomography (HRCT) revealed a cystic mass in the left lung with internal inhomogeneous consolidation, associated with an aspect of small-nodule clusters (Fig. 1). Surgical excision was performed, with segmentectomy of the lingula (Fig. 2). Histologic examination showed that the cystic lesion contained multiple villous structures resembling placental chorionic villi (Fig. 3). The histologic diagnosis was placental transmogrification of the lung (PTL). The patient had an uneventful postoperative course and was discharged without complication.

Discussion

Placental transmogrification of the lung (sometimes called placentoid bullous lesion) is a rare cystic lesion of the lung [1–3]. Grossly and microscopically, the lesion resembles placental tissue, with formation of placental villus-like papillary structures covered by epithelial cells [1]. PTL often occurs in association with emphysematous bulla. Although the lung and placenta seem to have nothing in common, they are both gas-exchanging organs [1]. The etiology and pathogenesis of PTL remain unclear [1, 4].

The disease occurs most commonly in men aged 20–50 years [2, 5]. This lesion has not been described in pediatric patients, although it is thought to be of congenital origin [2, 5]. Clinically, PTL may be asymptomatic or associated with chronic obstructive lung disease, pneumothorax, hemoptysis, or infection [1, 4]. PTL is considered to be a benign lesion, but a case of malignant transformation to papillary adenocarcinoma has been reported [1]. The differential diagnosis of PTL is broad, including bullous emphysema, intralobar pulmonary sequestration, congenital cystic adenomatoid malformation, bronchogenic cyst, and cystic lung tumors. Computed tomography or magnetic resonance imaging can help distinguishing these entities from PTL, but final diagnosis requires excisional resection and histologic and immunohistochemical examination [1, 2].

The most common imaging manifestation of PTL is a bullous emphysema pattern [2, 4]. The bullous lesions are generally unilateral, but they may involve the lung diffusely [1, 3, 5]. The disease may also present with a mixed pattern of thin-walled cystic lesions and nodules. Rarely, radiology shows a solitary nodule pattern [2–4]. On HRCT, the nodules may be observed to contain air, fat, or soft-tissue components [2, 4]. Surgical resection is the treatment of choice; it is usually curative and leads to successful improvement of symptoms and quality of life [1, 5]. In conclusion, despite being rare, PTL should be considered in the differential diagnosis of unilateral giant bullae with associated nodules or masses containing soft-tissue and/or fatty components [1, 4].

✉ Edson Marchiori
edmarchiori@gmail.com

[1] Santa Casa de Porto Alegre, Porto Alegre, Rio Grande do Sul, Brazil

[2] Federal University of Rio de Janeiro, Rua Thomaz Cameron, 438. Valparaiso, Petrópolis, Rio de Janeiro CEP 25685.120, Brazil

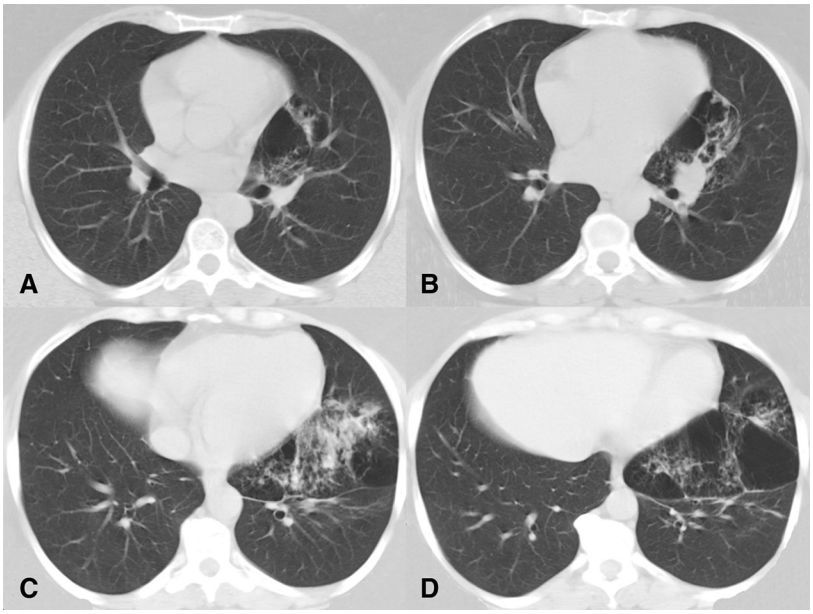

Fig. 1 High-resolution computed tomography **a**–**d** revealed a cystic mass in the middle third of the left lung with internal inhomogeneous consolidation, associated with an aspect of small nodule clusters

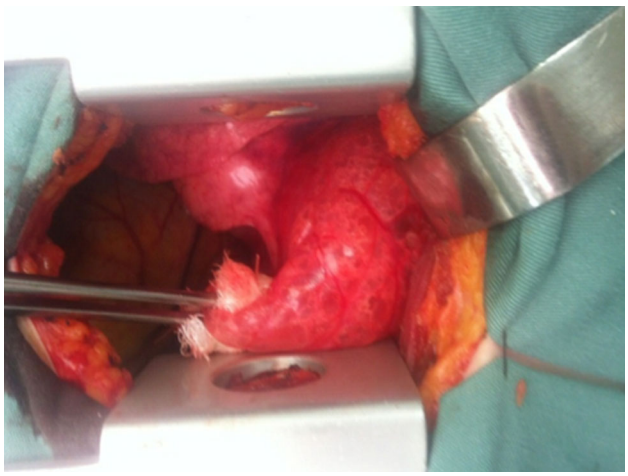

Fig. 2 Macroscopic appearance of the lesion, which resembles a placenta

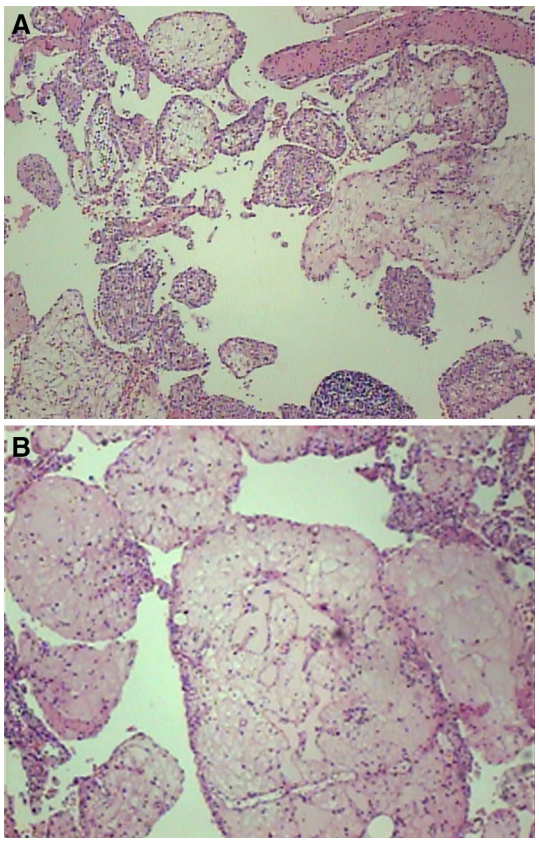

Fig. 3 Histopathology of the placental transmogrification of the lung. Microscopic examination at low magnification **a** showed multiple villous structures resembling placental chorionic villi (hematoxylin and eosin stain, ×40 magnification). High magnification **b** shows that the cores of the papillae are edematous and contain proliferating vessels and bland stromal elements with clear cytoplasm (hematoxylin and eosin stain, ×200 magnification)

Compliance with Ethical Standards

Conflict of Interest None.

References

1. Shapiro M, Vidal C, Lipskar AM et al (2009) Placental transmogrification of the lung presenting as emphysema and a lung mass. Ann Thorac Surg 87(2):615–616
2. Kim JW, Park IH, Kwon W et al (2013) Placental transmogrification of the lung. Korean J Radiol 14(6):977–980
3. Saito Y, Ikeya T, Hoshi E et al (2009) Placental transmogrification of the lung presenting as a small solitary nodule. Ann Thorac Surg 87(3):950–952
4. Santana AN, Canzian M, Stelmach R et al (2008) Placental transmogrification of the lung presenting as giant bullae with soft-fatty components. Eur J Cardiothorac Surg 33(1):124–126
5. Buch A, Kini U (2006) A case report of pulmonary placental transmogrification with review of literature. Indian J Chest Dis Allied Sci 48(2):147–150