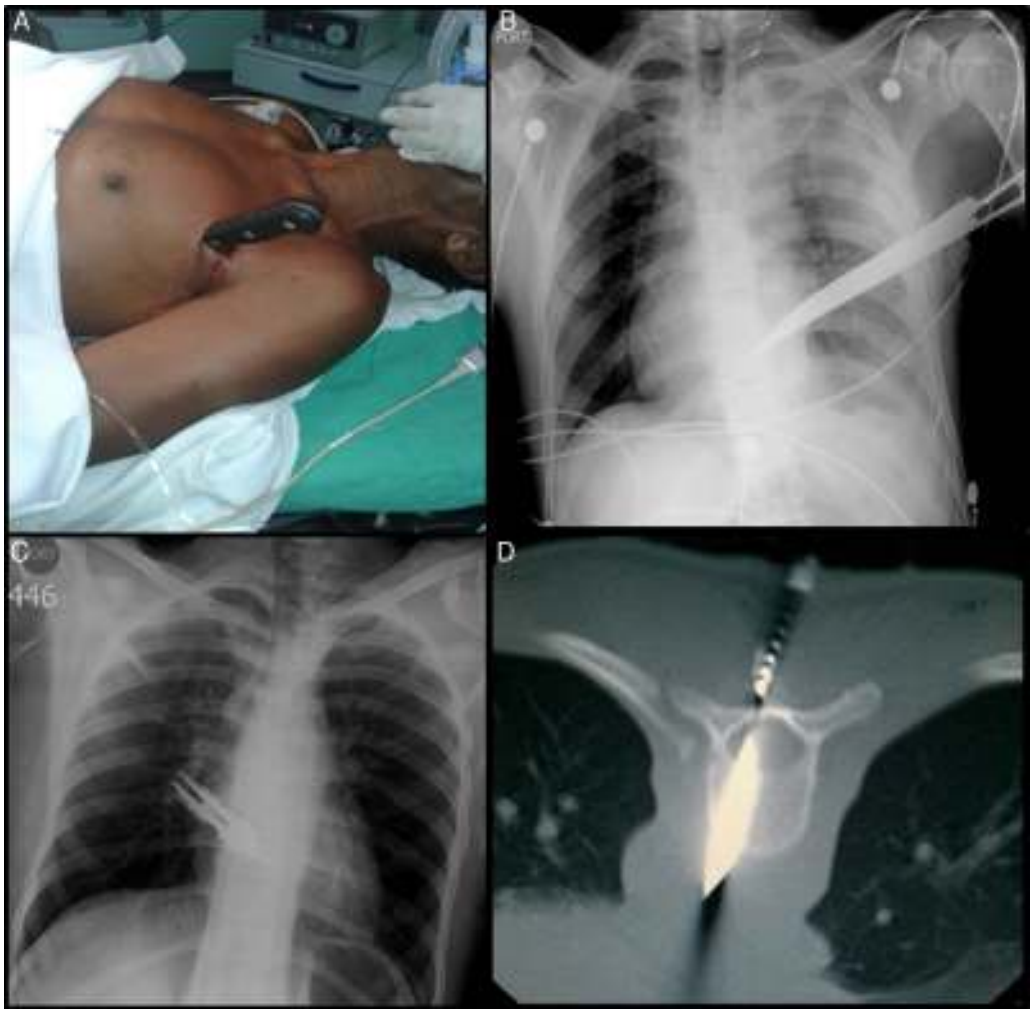

Fig. 1. (A) Knife impaled in the left thorax. (B) Chest radiograph. The blade of the knife can be seen above the cardiac silhouette and the left hemothorax. (C) Knife impaled in the posterior thorax. No hemothorax or pneumothorax seen on portable chest radiograph. (D) CT of spine in prone position.

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Interstitial Lung Disease With Statin-associated Necrotizing Autoimmune Myopathy Responding to Rituximab☆

Enfermedad pulmonar intersticial con miopatía autoinmune necrosante asociada a estatinas responde al rituximab

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To the Editor:

Statins [hydroxyl-methyl-glutaryl-coenzyme-A reductase (HMGCR) inhibitors] are used to treat patients with hypercholesterolemia. One recently described adverse effect of these drugs is necrotizing autoimmune myopathy (NAM).[1–3] In statin-induced NAM, patients present with subacute symmetrical proximal limb weakness and elevated serum levels of the muscle enzyme, creatine kinase (CK). The clinical course is severe, and patients present

Table 1
Drug Regimens, Lung Function Parameters and Clinincal Laboratory Results During Treament.

Drug regimen	Diagnosis No drug	May/13 Aza150 mg Pred40 mg	Aug/13 Aza 200 mg Pred 20	Dec/13 MMF 1 g	Apr/14 CyC IV (5th pulse)	Jun/14 1st month after Rtx	Aug/14 3rd month after Rtx	Nov/14 6th month after Rtx
FVC	2.24 (53%)	3.28 (71%)	2.71 (59%)	2.65 (60%)	2.73 (59%)	2.63 (58%)	2.78 (63%)	2.81 (63%)
FEV_1	2.02 (60%)	2.86 (77%)	2.29 (62%)	2.27 (64%)	2.34 (63%)	2.19 (61%)	2.40 (67%)	2.43 (68%)
TLC	3.75 (58%)	4.18 (63%)	4.38 (65%)	4.05 (63%)	3.82 (59%)	4.14 (64%)	4.05 (63%)	4.25 (63%)
RV	1.20 (62%)	0.90 (44%)	1.52 (34%)	1.35 (68%)	1.09 (50%)	1.31 (65%)	1.21 (60%)	1.44 (71%)
DLCO	19.50 (58%)	20.38 (62%)	22.1 (66%)	21.2 (67%)	21.2 (67%)	22 (67%)	18.1 (56%)	20.3 (63%)
MIP	NA	−88 (72%)	−60 (49%)	NA	NA	NA	−81 (67%)	NA
MEP	NA	78 (63%)	62 (50%)	NA	NA	NA	70 (68%)	NA
CK	>7000	90	193	713	1994	NA	744	148
Aldolase	19.3	4.6	6.3	9.4	27.2	NA	14.7	4.9

Aza: azathioprine (~3 mg/kg/day); CyC: cyclophosphamide (750 mg/m^2); MMF: mycophenolate mofetil, RTX: rituximab (two infusions of 1000 mg, two weeks apart); Pred: prednisolone; FVC: forced vital capacity; FEV_1: forced expiratory volume in 1 second; TLC: total lung capacity; RV: residual volume; DLCO: carbon monoxide diffusion capacity; MIP: maximal inspiratory pressure; MEP: maximal expiratory pressure; CK: creatine kinase; NA: not available.

histologically significant necrosis of muscle fibers with minimal or no inflammation.[2,3]

To date, no association between statin-induced NAM and interstitial lung disease (ILD) has been reported in the literature, and only one publication has addressed the use of rituximab in NAM.[4] We report the first case of ILD secondary to statin-induced NAM, correlating muscle disease with pulmonary functional deterioration, responding to rituximab.

A 52-year-old male patient complained of a 3-year history of myalgia, proximal limb muscle weakness (grade 3) and progressive breathlessness (currently grade 2 according to the Modified Medical Research Council dyspnea scale), which started 3 months after taking rosuvastatin for dyslipidemia. He also had diabetes mellitus and hypothyroidism, and was a non-smoker.

Statin use was withdrawn due to elevated CK (3000 U/L, reference values <150 U/L) and aldolase (19.3 U/L, reference values <7.6 U/L) levels; however, the side effects persisted. He was hospitalized due to increasing CK levels (7000 U/L). Physical examination was normal, and oxygen saturation (SpO_2) was 96% on room air. Electroneuromyography showed mild proximal myopathy. The biceps brachii muscle was biopsied, and histopathology indicated homogeneous muscle size, with moderate necrosis in muscle fibers without significant inflammation (CD4+/CD8+ negative and CD 68+ positive). MHC I on the surface of all muscle fibers was positive. Additional laboratory tests revealed normal serum levels of thyroid hormones, negative autoimmune antibodies, and negative serologies for hepatitis and HIV.

Lung function tests (LFTs) showed a restrictive pattern with reduction of carbon monoxide diffusion capacity (DLCO) (Table 1). High-resolution chest computed tomography (CT) showed a pattern of non-specific interstitial pneumonia (Fig. 1A and B).

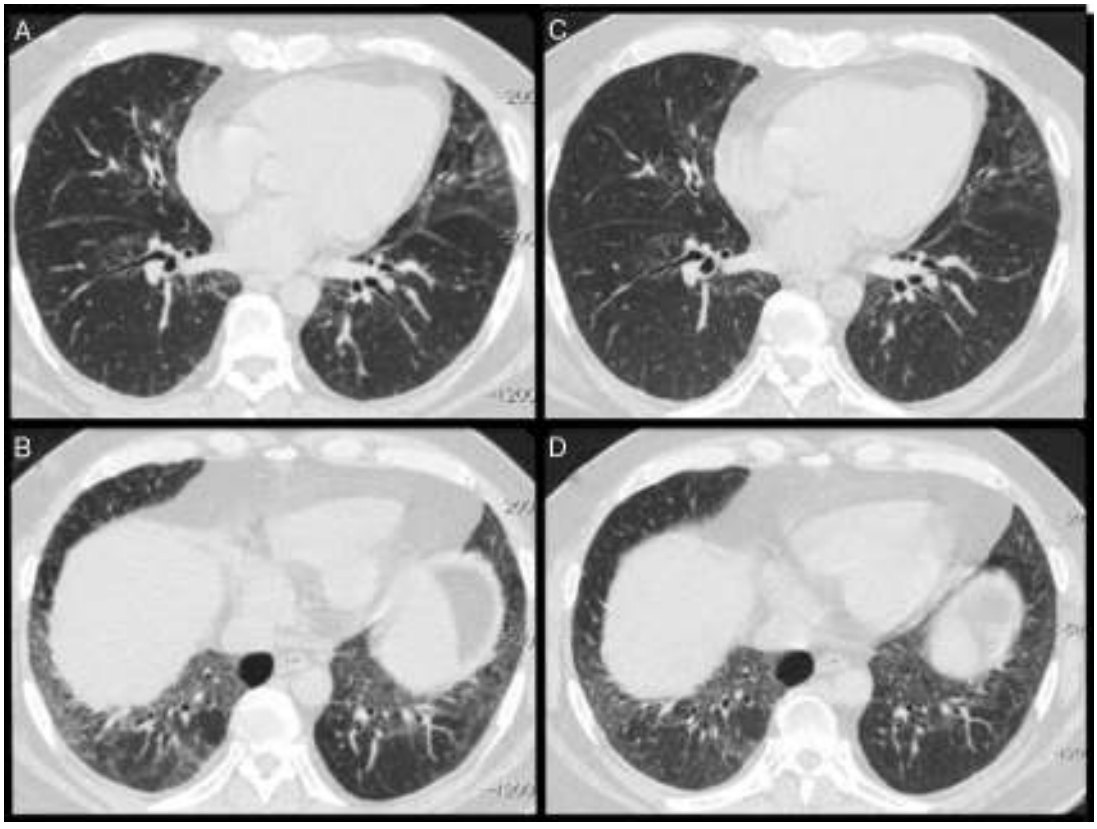

Fig. 1. (A and B) High-resolution computed tomography showing raised diaphragm, ground glass opacities, interlobular thickening, and traction bronchiectasis predominantly in the lower lobes, a pattern compatible with non-specific interstitial pneumonia. (C and D) CT scans after rituximab treatment showing improvement in ground glass opacities.

Statin-induced NAM was diagnosed and the patient was treated with intravenous methylprednisolone and human immunoglobulin. He was discharged with prednisone (40 mg/day) and azathioprine. Clinical, laboratory and PFT findings improved gradually after 3 months. Prednisone was gradually tapered to 20 mg/day, but muscle strength and dyspnea continued to worsen, while CK and aldolase levels rose. Azathioprine was switched to mycophenolate mofetil but later discontinued due to gastrointestinal intolerance. Cyclophosphamide (CyC) was then introduced monthly (750 mg/m^2), but after six CyC doses, a high dose of prednisone had to be maintained (Table 1). Rituximab was then introduced (1000 mg, 2 weeks apart), leading to reduced CK levels and improvements in LFTs and CT results (Fig. 1C and D).

Rituximab, a chimeric monoclonal anti-CD20 antibody, has been used as a rescue drug in the treatment of refractory myositis and ILD associated with antisynthetase syndrome[5] Our case demonstrated a successful outcome with rituximab, and one possible explanation for this response could be that B cell depletion prevents not only persistent autoantibody production in NAM but also antigen presentation and interaction with other T cells.

A major limitation of our case report is that anti-HMGCR autoantibodies were not analyzed. Nevertheless, the temporal association between the onset of symptoms and statin use, the presence of significant necrosis without inflammation on muscle biopsy, and the requirement of intense immunosuppression allowed a confident diagnosis of statin-related NAM.

We emphasize the importance of considering statins as potential etiologic factors of ILD. Patients with statin-related NAM should be actively tested for ILD, and rituximab seems to have a role in refractory cases.

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Subacute Silicone Pneumonitis After Silent Rupture of Breast Implant☆

Neumonitis subaguda por silicona tras la rotura silente de un implante mamario

To the Editor:

Silicones are a group of polydimethylsiloxane polymers with differing viscosity, depending on their chain length. They are widely used in cosmetic and reconstructive surgery due to their supposed physical stability and lack of immunogenicity. However, these compounds are not inert, and numerous local and systemic complications associated with their use have been reported.[1–3]

Most cases of pulmonary toxicity described in the literature are associated with subcutaneous injections of liquid silicone, and this practice is currently banned by the FDA. In contrast, systemic complications due to silicone gel prostheses are exceptionally rare.[1] We report the case of subacute pneumonitis caused by silicone in a patient with breast implants.

A 55-year-old woman, non-smoker, with a history of primary biliary cirrhosis, who had received bilateral breast implants 10 years previously. She presented in the pulmonology clinic with a 3-month history of symptoms including irritative cough, low-grade fever, pleuritic chest pain, dyspnea on moderate exertion, asthenia, and loss of appetite. Of note on physical examination were tachypnea, 24 breaths/min and crackles in upper left fields on auscultation. Arterial blood gases, complete blood count and serum biochemistry results were normal.

On chest radiograph, ground glass opacities and airspace consolidation in both lung bases and periphery were observed. The initial diagnosis was pneumonia, and the patient began antibiotic treatment with moxifloxacin. However, her progress was slow, so she was admitted for further tests. A fiberoptic bronchoscopy was performed, which revealed no pathological findings. Chest computed tomography revealed new areas of parenchymal consolidation in the upper right lobe (Fig. 1A). Finally, the patient underwent a surgical lung biopsy by videoassisted thoracoscopy. The pathology study gave a diagnosis of foreign body giant cell reaction, with macrophages containing lipid vacuoles (Fig. 1B). Magnetic resonance imaging of the breast confirmed the intra- and extracapsular rupture of the right breast prosthesis. The prosthesis was removed surgically and oral corticosteroid treatment was initiated, after which the patient's progress was favorable.

Silicone implants are increasingly used in breast surgery both for reconstructive and cosmetic reasons. Migration of silicone after transplant generally occurs after rupture of the prosthesis, although silicone can also seep through an intact shell.[4]

The first case of silicone pneumonitis was described in 1975, and since then similar case series have been reported, mostly due to subcutaneous injections of liquid silicone. The pathogenesis of this disease is unknown, but the most accepted hypotheses suggest hematogenous or lymphatic dissemination of the silicone. Two clinical courses have been described: the acute form, which occurs with sudden-onset dyspnea, fever and chest pain; and the latent form, with onset 6 months after the application of the biopolymer, that occurs with more simmering symptoms.[5]

The definitive diagnosis can be achieved with transbronchial or open biopsy, although the presence of macrophages with

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