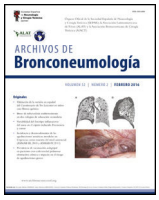
Arch Bronconeumol. 2019;55(7):393–398

Sociedad Española de Neumología y Cirugía Torácica SEPAR

ARCHIVOS DE Bronconeumología

www.archbronconeumol.org



Letters to the Editor

Right Heart Catheterization Further Confirms Successful Transition from Parenteral Prostanoid to Oral Selexipag

El cateterismo cardíaco derecho confirma con éxito el cambio de prostanoides parenterales a selexipag vía oral

Dear Editor,

Pulmonary arterial hypertension (PAH) is a progressive pulmonary vasculopathy with devastating prognosis. Only three therapeutic targets (endothelin, nitric oxide, and prostacyclin) are currently available to slow down the progression of the disease. Parenteral prostacyclin analogues are recommended in patients suffering from severe PAH with high-risk profile.[1] Treprostinil, a prostacyclin analogue, improves patients' risk profile but frequently associates severe pain at infusion site. Oral selexipag is a novel orally available non-prostacyclin selective prostacyclin receptor (IP receptor) agonist,[2] currently approved to treat intermediate risk PAH patients.

We recently reported the first successful switch from subcutaneous treprostinil to oral selexipag in a stable PAH patient reporting unbearable adverse events related to treprostinil subcutaneous administration.[3] Six months after treprostinil withdrawal, the patient non-invasive risk profile had slightly improved and her quality of life drastically increased. At that time invasive data were lacking. We relied on non-invasive prognostic markers (WHO FC, NTproBNP and 6MWD),[4] adding echocardiogram and cardiopulmonary exercise test parameters to increase accuracy.

There is still little experience with transition to oral selexipag from parenteral prostacyclin therapy,[5] and further investigation is required to confirm safety and efficacy of this switch. Therefore, we communicate that one year has elapsed since our patient started transition to selexipag, and treprostinil was completely withdrawn more than 10 months ago. She maintains her previously achieved low risk profile,[3] and finally accepted to undergo right heart catheterization. Low risk profile achievement is now documented also invasively, and with longer follow up (Table 1).

Taking into account that PAH is a progressive disease, the fact that the patient remains stable, in confirmed low risk profile, 10 months after withdrawal of parenteral prostanoids, highlights the safety of transition from parenteral prostanoids to oral selexipag in adequately selected patients.

Table 1
Risk profile assessment.

1A. Adapted from ESC/ERS guidelines for the diagnosis and treatment of pulmonary hypertension 2015,[1] with permission.	1.B. Our patient risk-profile: before treprostinil, with treprostinil and after > 6-10 months with selexipag.

Determinants of prognosis Estimated 1 year mortality	Low risk <5%	Intermediate risk 5–10%	High risk >10%	Patient's deterioration 2014 Before treprostinil	Under treprostinil End 2014-2017	After 22 months of selexipag
Clinical sings of right heart failure	Absent	Absent	Present	Absent	Absent	Absent
Progression of symptoms	No	Slow	Rapid	Slow	No	No
Syncope	No	Occasional	Repeated	Occasional	No	No
WHO functional class	I,II	III	IV	III	II	II
6MWD	>440 m	165–440 m	<165 m	368 m	434 m	467 m
CPET: peak VO_2	>15 ml/kg/min >65% of predicted	11–15 ml/kg/min 35–65% of predicted	<11 ml/kg/min >65% of predicted	12.3 ml/kg/min 63% of predicted	14.5 ml/kg/min 80% of predicted	15.5 ml/kg/min 85.5 % of predicted
NTproBNP levels	<300 pg/ml	300–1400 pg/ml	>1400 pg/ml	398 pg/ml	87 pg/ml	42 pg/ml
Echocardiography	RA <18 cm^2 No pericardial effusion	RA 18–26 cm^2 No or minimal pericardial effusion	RA >26 cm^2 Pericardial effusion	RA 19 cm^2 Minimal pericardial effusion	RA 17 cm^2 No pericardial effusion	RA 17 cm^2 No pericardial effusion
Hemodynamics	RAP <8 mmHg CI >2.5 l/min/m^2 SvO_2 >65%	RAP 8–14 mmHg CI 2–2.4 l/min/m^2 SvO_2 60–65%	RAP >14 mmHg CI <2 l/min/m^2 SvO_2 <60%	RAP 10 mmHg CI 2.4 l/min/m^2 SvO_2 63%		RAP 3 mmHg CI 3 l/min/m^2 SvO_2 79 %

6MWD: 6 minutes walking distance; CPET: cardiopulmonary Exercise Test; VO_2: oxygen uptake; RA: right atrium; RAP: right atrial pressure; SvO_2: mixed venous oxygen saturation; CI: cardiac index.
Colors are: Red for high risk, Yellow for intermediate risk, Green for low risk. These are taking from risk evaluation table proposed in ESC/ERS Guidelines published in 2016, and used current in clinical daily practice.

References

1. Galie N, Humbert M, Vachiery JL, Gibbs S, Lang I, Torbicki A, et al. 2015 ESC/ERS Guidelines for the diagnosis and treatment of pulmonary hypertension. Eur Heart J. 2016;37:67–119.
2. Sitbon Olivier, Channick Richard, Chin Kelly M, Frey Aline, Gaine Sean, Galiè Nazzareno, et al., GRIPHON study. Selexipag for the treatment of pulmonary arterial hypertension. N Engl J Med. 2015;373:2522–33.
3. Lázaro Salvador M, Akerström F, Escribano Subías P, Berenguel Senén A, Martinez Mateo V, Rodriguez Padial L. Living with severe pulmonary arterial hypertension without an infusion pump? Selexipag has a role to play. Arch Bronconeumol. 2018, http://dx.doi.org/10.1016/j.arbres.2018.03.010. pii:S0300-2896(18)30154-6.
4. Boucly A, Weatherald J, Savale L, Jaïs X, Cottin V, Prevot G, et al. Risk assessment, prognosis and guideline implementation in pulmonary arterial hypertension. Eur Respir J. 2017, http://dx.doi.org/10.1183/13993003.00889-2017.
5. Fanous SM, Janmohamed M. Transition from treprostinil to selexipag in patients with pulmonary arterial hypertension: case series. Am J Health Syst Pharm. 2018;75:1877–81, http://dx.doi.org/10.2146/ajhp170814 [Epub ahead of print].

María Lázaro Salvador,[a,*] Pilar Escribano Subías,[b] Luis Rodriguez Padial[a]

[a] *Department of Cardiology, Hospital Virgen de la Salud, Toledo, Spain*
[b] *Department of Cardiology, Hospital Universitario 12 de Octubre, Madrid, Spain*

* Corresponding author.
E-mail address: maria.lasal@gmail.com (M. Lázaro Salvador).

1579-2129/
© 2019 SEPAR. Published by Elsevier España, S.L.U. All rights reserved.

Silicosis Caused by Artificial Quartz Conglomerates: Keys to Controlling an Emerging Disease☆

Silicosis por aglomerados artificiales de cuarzo: claves para controlar una enfermedad emergente

To the Editor,

The interesting editorial by Martínez-González[1] on changes in the clinical and epidemiological profile of pneumoconiosis caused by exposure to silica in our country highlights a novel source of exposure: the emergence in the 1990s of artificial quartz agglomerates (AQA) for the construction of kitchen worktops and surfaces.

In the Spanish province of Cadiz between 2009 and 2012, we detected a cluster of cases in small family decorative stone-working businesses in local industrial parks, where exposed workers specializing in the machine-working of AQA were employed in poor working conditions. In our experience, this emerging silicosis affects young men after intense exposure over short periods of time.[2,3]

Despite awareness of the danger of this exposure, deficiencies in health and safety measures continue to be detected. As an example, we present the clinical and occupational characteristics (Table 1) of a new cluster of 7 cases diagnosed with simple chronic silicosis at the end of 2015, originating in a decorative stone-working company in Seville employing 11 workers. Mean age at diagnosis was 34.9 years, mean employment history in the company was 11.6 years, and the prevalence of silicosis was 63.6%. Dry polishing, cutting and finishing were carried out in the workshop and in homes, and these finishing activities continued to be performed using dry techniques, despite introducing machinery with water intake in 2011. It is interesting to note the family relationships between 4 of those affected.

Six of the silicosis cases were diagnosed using high-resolution computed tomography (HRCT), and the seventh was diagnosed by transbronchial biopsy after a history of occupational exposure was collected. No standard chest X-rays were performed in examinations conducted before diagnosis. In our practice, the health monitoring of exposed workers must include a standard chest X-ray, although HRCT is useful if the radiological findings are unclear, and for monitoring slow-progressing disease.[4] However, confirmatory diagnostic criteria in the management of radiological tests must be fulfilled.

With regard to prevention, doubts have been raised as to the effectiveness of daily exposure limits. In 2015, the National Institute for Health and Safety at Work decreased the limit for free crystalline silica exposure from 0.1 mg/m^3 to 0.05 mg/m^3, but the institutions involved must be aware that this reduction in daily exposure limits must also be accompanied by greater rigor

Table 1
Clinical and occupational characteristics of workers.

Series	Age at diagnosis (years)	Working history (years)	Position	Diagnostic test	Spirometric pattern DLCO	mMRC dyspnea	Personal history	Toxic habits	Affected relative
Case 1	30	10	Workshop, home	HRCT	Normal	Grade 1	Asthma, rhinoconjunctivitis	Active smoker	No
Case 2	33	16	Workshop	HRCT	Mild obstructive	Grade 1	Asthma, pericarditis	No	Father (case 3).
Case 3	54	10	Home	HRCT	Normal	Grade 1	Not significant	Active smoker	Son (case 2).
Case 4	39	13	Home	HRCT	Mild reduction in DLCO	Grade 2	Phthisis bulbi right eye, mild hearing loss right ear	Active smoker	Brother (case 5).
Case 5	31	14	Workshop	HRCT	Normal	Grade 1	Not significant	Active smoker	Brother (case 4).
Case 6	30	12	Workshop	HRCT	Normal	Grade 1	Psoriasis	No	No
Case 7	27	6	Workshop, home	Transbronchial biopsy	Normal	Grade 1	Not significant	No	No

DLCO: diffusing capacity of carbon monoxide; mMRC: Modified Medical Research Council dyspnea scale; HRCT: high-resolution computed tomography.

☆ Please cite this article as: Pérez-Alonso A, Córdoba-Don˜a JA, León-Jiménez A. Silicosis por aglomerados artificiales de cuarzo: claves para controlar una enfermedad emergente. Arch Bronconeumol. 2019;55:394–395.