



# Patent Ductus Arteriosus Can Coexist With Pulmonary Sequestration in Adults, Conditioning Pulmonary Hypertension

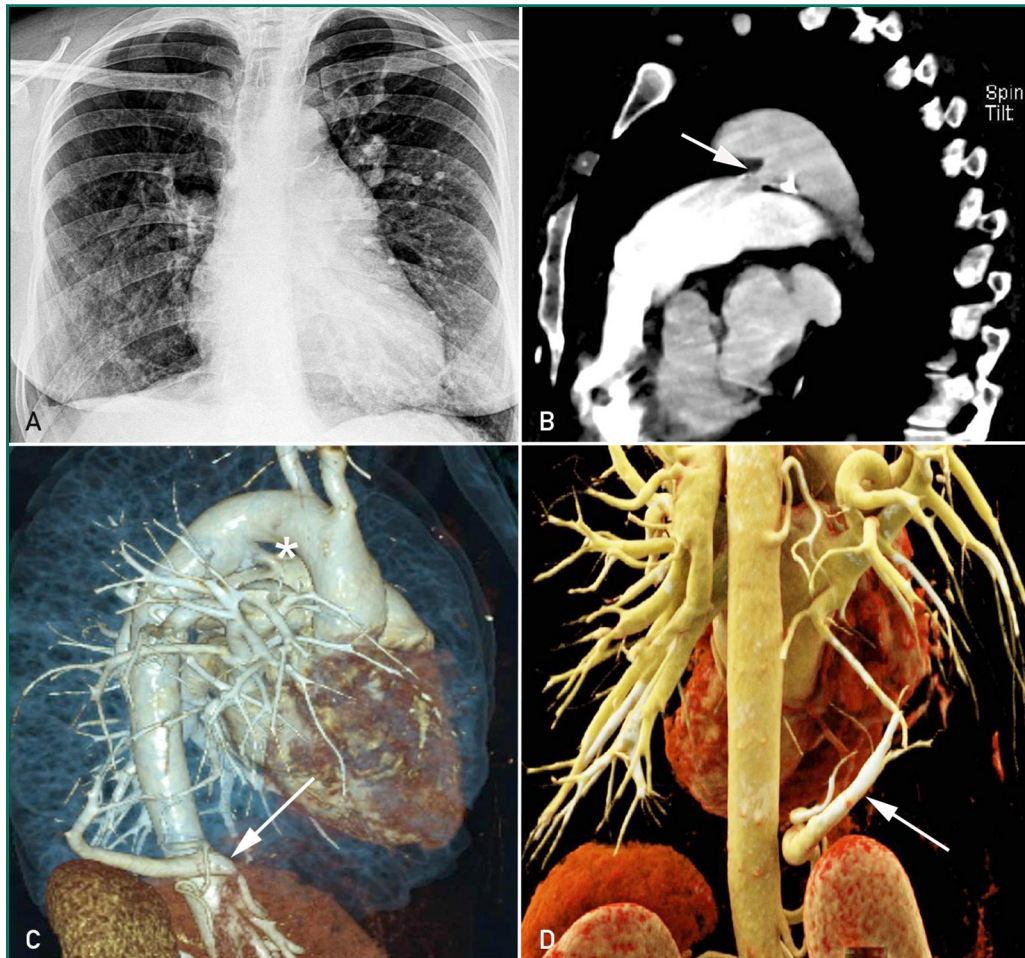
Guillermo Cueto-Robledo, MD; Carlos Narvaez-Oriani, MD;  
and Ernesto Roldan-Valadez, MD, MSc, DSc



From the Pulmonary Circulation Clinic (G.C.-R.), Cardio-respiratory Emergencies (G.C.-R.), and Directorate of Research (E.R.-V.), Hospital General de Mexico "Dr Eduardo Liceaga," Mexico City, Mexico; Faculty of Medicine, National Autonomous University of Mexico, Mexico City, Mexico (G.C.-R.); Department of Cardiology, ISSSTE Hospital General Tacuba, Mexico City, Mexico (C.N.-O.); and Department of Radiology, I.M. Sechenov First Moscow State Medical University (Sechenov University), Moscow, Russia (E.R.-V).

A woman in her early 40s attended the hospital for dyspnea. Her chest radiograph revealed cardiomegaly, prominence of the cone of the pulmonary artery, and hyperflow (Figure A). The electrocardiogram revealed growth of the atrium and right ventricle. The chest computed tomography angiogram depicted right

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**FIGURE.** A, Posteroanterior chest radiograph shows a prominent pulmonary artery cone with an increased vascular pattern and an aortic atheroma. B, Sagittal plane, computed tomography pulmonary angiogram showing a patent calcified ductus arteriosus (white arrow). C and D, Three-dimensional reconstructions show the intralobar sequestration artery originating from the abdominal aorta (white arrows) and the patent ductus arteriosus (white asterisk).

**TABLE. RHC Depicted Severe Precapillary Pulmonary Arterial Hypertension in the Upper Row; Normal RHC Numbers Are Shown in the Lower Row**

Variable	HR (beats/ min)	RA (mm Hg)	RV s/ d (mm Hg)	PAP s/d/m (mm Hg)	CI (L/min per meter squared)	PCWP (mm Hg)	PVR (WU)	PvO <sub>2</sub> (mm Hg)	SvO <sub>2</sub>	Pao <sub>2</sub> (mm Hg)	SaO <sub>2</sub>
Patient	104	11	123/8	122/67/87	3.5	11	14.8	38	61%	51	80%
Normal	60/90	6	25/4	25/2/14	2.4-4	4/12	<3	35/45	75%	>65	>90%

CI, cardiac index; HR, heart rate; Pao<sub>2</sub>, partial pressure in oxygen; PAP, pulmonary arterial pressure; PCWP, pulmonary capillary wedge pressure; PvO<sub>2</sub>, mixed venous oxygen tension; PVR, pulmonary vascular resistance; RA, right atrium; RHC, right heart catheterization; RV, right ventricle; s/d, systolic/diastolic; s/d/mean, systolic/diastolic/mean; SaO<sub>2</sub>, oxygen saturation level in arterial blood; SvO<sub>2</sub>, mixed venous oxygen saturation; WU, Wood units.

Data extracted from *Manual para la realización de cateterismo cardíaco derecho*.<sup>1</sup>

intralobar pulmonary sequestration (PS) with a patent ductus arteriosus (Figure B); the blood supply of the sequestrum originated from the abdominal aorta with venous drainage toward the pulmonary vein and the left atrium (Figure C and D). Right heart catheterization found severe precapillary pulmonary hypertension (PH) (Table).<sup>1</sup> The echocardiogram reported PH, a jet of tricuspid regurgitation (Supplemental Figure A, available online at <http://www.mayoclinicproceedings.org>), and the dilation of the heart's right chambers (Supplemental Figure B).

Pulmonary sequestration corresponds to 0.15% to 6.4% of all congenital pulmonary malformations, an abnormal mass of tissue that does not communicate with the bronchial tree or the pulmonary arteries.<sup>2</sup> Patent ductus arteriosus and PH in the intralobar PS have not been described.<sup>3</sup> This case illustrates the association of intralobar PS and the effect of PH due to congenital heart disease, which was not surgically treated because of severe pulmonary vascular disease; our patient was maintained on sildenafil and macitentan.

#### POTENTIAL COMPETING INTERESTS

The authors report no competing interests.

#### SUPPLEMENTAL ONLINE MATERIAL

Supplemental material can be found online at: <http://www.mayoclinicproceedings.org>. Supplemental material attached to journal articles has not been edited, and the authors take responsibility for the accuracy of all data.

**Correspondence:** Address to Guillermo Cueto-Robledo, MD, Pulmonary Circulation Clinic, Hospital General de Mexico "Dr Eduardo Liceaga," Mexico City, Mexico ([gmocue3@hotmail.com](mailto:gmocue3@hotmail.com)); or Ernesto Roldan-Valadez, MD, MSc, DSc, Directorate of Research, Hospital General de Mexico "Dr Eduardo Liceaga". Dr. Balmis 148, Colonia Doctores, Delegacion Cuauhtemoc, 06726 Mexico City, Mexico ([emest.rolدان@usa.net](mailto:emest.rolدان@usa.net); Twitter: @DrERLectures).

#### ORCID

Ernesto Roldan-Valadez:  <https://orcid.org/0000-0002-7116-5289>

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