Clover-leaf artifact after successful percutaneous closure of muscular ventricular septal defect

Artefacto de hoja de trébol después del cierre percutáneo exitoso del defecto del tabique ventricular muscular

Mozghan Parsaee¹, Kamran Mohammadi¹, Leili Pourakfari¹,² and Nader D. Nader²*

¹Echocardiography Research Center, Rajaie Hospital, Iran University of Medical Sciences, Tehran, Iran; ²Department of Anesthesiology, University at Buffalo, Buffalo, New York, USA

A 25-year-old woman presented to our echocardiography laboratory for a follow-up imaging study. She had a history of muscular ventricular septal defect (VSD) closure by Amplatzer Muscular VSD Occluder (St. Jude Medical, USA) 4 years before this visit. Since this repair, she has remained asymptomatic and was on no medication. In transthoracic echocardiography, the double disc device was visualized in apical four-chamber view (Fig. 1) with no residual VSD flow. Interestingly, in off-axis view of parasternal long-axis imaging, the device was visualized in the form of two side-by-side figure of 8 “Clover-leaf” appearances (Figs. 2 and 3).

Percutaneous disc occluders due to their specific “epitrochoidal” mesh configuration and the interaction with ultrasound waves; form this image artifact when viewed from a coronal imaging position¹. Transthoracic echocardiography is the main method of follow-up for post-procedural device position, and accurate interpretation of views is of utmost importance².

By increasing utilization of percutaneous closure devices for various indications including atrial and VSD,

Figure 1/Video 1. Apical four-chamber echocardiogram showing normal biventricular function. The double-disc occluder device is visualized in the mid part of the interventricular septum.

left atrial appendage, patent foramen ovale, recognition of this particular pattern as a normal imaging artifact of a deployed double-disc device when visualized from a

Correspondence:
*Nader D. Nader
E-mail: nadernd@gmail.com

Date of reception: 02-10-2018
Date of acceptance: 12-11-2018
Available online: 09-08-2019
Arch Cardiol Mex (Eng). 2019;89(1):70-71
www.archivoscardiologia.com

© 2018 Instituto Nacional de Cardiología Ignacio Chávez. Publicado por Permanayer México SA de CV. Este es un artículo Open Access bajo la licencia CC BY-NC-ND (http://creativecommons.org/licenses/by-nc-nd/4.0/).
The coronal imaging position is necessary to avoid misinterpretations of studies such as malposition or displaced device.

**Conflicts of interest**

The authors declare do not have conflicts of interest.

**Ethical disclosures**

**Protection of human and animal subjects.** The authors declare that no experiments were performed on humans or animals for this study.

**Confidentiality of data.** The authors declare that they have followed the protocols of their work center on the publication of patient data.

**Right to privacy and informed consent.** The authors declare that no patient data appear in this article.

**References**