See Article page 69.

Commentary: Cutaneous presentation of cardiac myxoma

Rebecca M. Gerlach, MD, FRCPC,[a] and Mark A. Chaney, MD[b]

Rebecca M. Gerlach, MD, FRCPC

CENTRAL MESSAGE

Autoimmune-like skin changes caused by immunomodulatory cytokines may accompany a cardiac myxoma.

Diagnosing a cardiac myxoma can be challenging, because affected patients frequently present with nonspecific findings, such as fatigue, shortness of breath, or fever.[1] The case report presented here serves as an important reminder to continue to seek alternative diagnoses in the setting of unexplained symptoms such as these. Ajira and associates[2] from Japan present a unique narrative, describing an elderly female patient who initially reported fever, erythema of the legs, and skin changes that were resistant to conventional treatment, Blood tests produced negative culture results yet revealed a neutrophil-dominant leukocytosis and elevated interleukin 6. A skin biopsy revealed neutrophilic infiltration without evidence of vasculitis. Ajira and associates[2] do not elucidate what led them to perform echocardiography; however, the transthoracic examination unexpectedly revealed a left atrial mass suggestive of a cardiac myxoma. After surgical removal, pathologic examination confirmed the diagnosis of myxoma. Further differentiation by immunostaining was positive for interleukin 6, interleukin 1β, and granulocyte colony-stimulating factor. After myxoma removal, the previous neutrophilic dermatosis and fever immediately resolved, and the patient remained free of symptoms at 65 months of follow-up.

A cardiac myxoma may masquerade as an autoimmune disease through the secretion of immunoregulatory cytokines. Secretion of interleukin 6 by cardiac myxomas is a frequent finding, with higher levels correlated with increased tumor size, although this is not always associated with constitutional findings.[3] Cytokine secretion can also lead to a host of paraneoplastic syndromes attributable to the cardiac myxoma, such as Raynaud's phenomenon, erythema and petechiae of hands and feet, leukocytosis, anemia, fever of unknown origin, acute renal failure, or peripheral demyelinating neuropathy.[1] In this case, the neutrophilic dermatosis may have resulted from a common pathway of cytokines related to the cardiac myxoma.[4] Neutrophil-mediated skin diseases are a group of disorders that include pyoderma gangrenosum and Sweet syndrome.[4] As Ajira and associates[2] point out, the rapid resolution of the patient's neutrophilic dermatosis and lack of recurrence support the conclusion that it was caused by cytokine release from the myxoma.

References

1. Smith M, Chaudhry MA, Lozano P, Humphrey MB. Cardiac myxoma induced paraneoplastic syndromes: a review of the literature. *Eur J Intern Med*. 2012;23:669-73.
2. Ajiro Y, Nino H, Ueda T, Bonkohara Y. Granulocyte-colony stimulating factor–and interleukin-1β positive cardiac myxoma accompanying neutrophilic dermatosis. *J Thorac Cardiovasc Surg Tech*. 2020;1:69-71.
3. Soeparwata R, Poeml P, Schmid C, Neuhof H, Scheld HH. Interleukin-6 plasma levels and tumor size in cardiac myxoma. *J Thorac Cardiovasc Surg*. 1996;112:1675-7.
4. Marzano AV, Ortega-Loayza AG, Heath M, Morse D, Genovese G, Cugno M. Mechanisms of inflammation in neutrophil-mediated skin diseases. *Front Immunol*. 2019;10:1059.

From the [a]Department of Anesthesia & Critical Care, Anesthesia Perioperative Medicine Clinic and [b]Department of Anesthesia & Critical Care, Cardiac Anesthesia, University of Chicago, Chicago, Ill.

Disclosures: Authors have nothing to disclose with regard to commercial support.
Received for publication Dec 16, 2019; revisions received Dec 16, 2019; accepted for publication Jan 3, 2020; available ahead of print Feb 5, 2020.

Address for reprints: Mark A. Chaney, MD, Department of Anesthesia & Critical Care, University of Chicago, 5841 S Maryland Ave, MC 4028, Chicago, IL 60637 (E-mail: mchaney@dacc.uchicago.edu).

JTCVS Techniques 2020;1:72
2666-2507

https://doi.org/10.1016/j.xjtc.2020.01.011