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RIGHT ATRIAL THROMBUS AS INITIAL PRESENTATION OF APLA - A RARE CASE REPORT

Cardiovascular

Palani Raj Suresh MS, Senior Resident, Department of CVTS, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram, Kerala, India - 695011..

Simon Philipose* MCh CVTS, Assistant Professor, Department of CVTS, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram, Kerala, India - 695011. *Corresponding Author

Vimlendra Kumar Chaudhary MBBS, MS, DNB, Senior Resident, Department of CVTS, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram, Kerala, India - 695011.

Varghese T Panicker MCh CVTS, Professor, Department of CVTS, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram, Kerala, India - 695011.

Vivek V Pillai MCh CVTS, Professor, Department of CVTS, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram, Kerala, India - 695011.

ABSTRACT

A 42-year-old female with complaints of progressive dyspnea on lying down was diagnosed with a right atrial mass in echocardiography, suggestive of Right atrial myxoma. Surgical excision of the mass was done, which showed histopathological features of right atrium thrombus. Further evaluation showed positive antiphospholipid antibodies.

KEYWORDS

Adult cardiac surgery, Right atrial mass, Autoimmune disease, APLA syndrome

INTRODUCTION:

Antiphospholipid antibody (APLA) syndrome is an autoimmune prothrombotic disorder characterised by recurrent arterial or venous thrombosis, pregnancy morbidity, and the persistent presence of antiphospholipid antibodies such as lupus anticoagulant, anticardiolipin, and anti-β2 glycoprotein I antibodies [1]. While deep vein thrombosis and stroke are the most common manifestations, intracardiac thrombus is a rare and often under-recognised presentation of APLA syndrome, especially in the absence of other systemic features [2].

Pulmonary thromboembolism is a life-threatening thrombotic event of APLA syndrome, but the asymptomatic presentation of pulmonary thromboembolism is rare [3].

Here, we describe a right atrial thrombus as the initial presentation of APLA syndrome.

Case Report:

A 42-year-old woman with type 2 diabetes mellitus presented with progressive dyspnea, notably worsening on lying down and relieved on sitting up. Transthoracic echocardiography revealed two mobile pedunculated masses in the right atrium. (Figure 1). A 1.2□×□1.2□cm lesion attached to the RA roof, and A 1.5□×□1.4□ cm lesion arising from the interatrial septum.

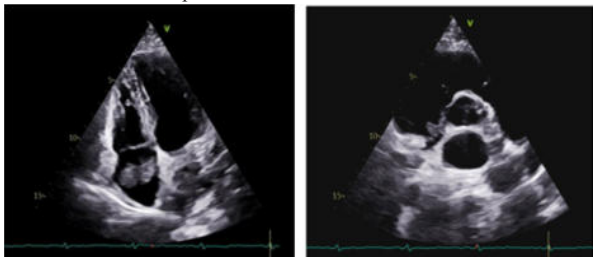

Figure 1-Transthoracic images depicting multiple hyper-echoic mass in the right atrium

Cardiac MRI showed poorly enhancing, mixed-signal intensity masses suggestive of multiple right atrial myxomas. (Figure 2).

Septic workup, including blood cultures, was negative. CT pulmonary angiography was performed to exclude pulmonary embolism and additional intracardiac thrombi; findings were negative. Given the mobile nature and embolic potential of the masses, the patient underwent elective surgical excision. Intraoperatively, multiple masses were noted near the Right atrium-inferior vena cava junction. Aortic and right atrial cannulation were established for cardiopulmonary bypass. Total circulatory arrest (TCA) was briefly instituted to ensure the complete removal of the lesions. Post-operative recovery was uneventful. Histopathological examination of the excised masses revealed organised thrombus, not neoplasm. Given the unusual presentation and absence of structural heart disease, a hypercoagulable workup was initiated. Results were significant for: Positive anticardiolipin antibodies (aCL), Positive anti-β2 glycoprotein I antibodies. The patient was diagnosed with APLA syndrome and initiated on long-term anticoagulation with a vitamin K antagonist.

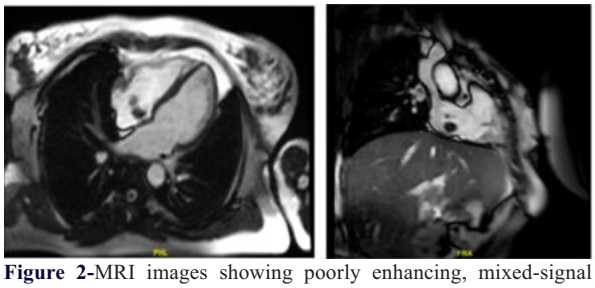

Figure 2-MRI images showing poorly enhancing, mixed-signal intensity masses suggestive of right atrial myxomas

DISCUSSION:

The presence of a right atrial thrombus, particularly in young individuals without identifiable structural heart disease or traditional risk factors for thrombosis, should prompt consideration of underlying hypercoagulable states, including APLA. In our case, the right atrial thrombus was the initial clinical manifestation, and subsequent serological work-up confirmed the diagnosis of APLA syndrome. It has been hypothesised that interleukin-6 produced by the myxoma may induce an immunological response, potentially leading to the development of APLA syndrome [4].

APLA syndrome is defined based on international consensus clinical and laboratory criteria, which include a history of thrombosis and/or pregnancy complications, along with the persistent presence of lupus anticoagulants and/or medium to high titers of anticardiolipin antibodies (IgG and/or IgM isotypes) detected in the blood on two or more occasions at least six weeks apart [5].

Right atrial thrombi are clinically significant due to their potential for

embolisation to the pulmonary vasculature, leading to life-threatening pulmonary embolism. They are often classified as Type A (mobile, serpiginous thrombi-in-transit), Type B (non-mobile thrombi usually attached to the atrial wall), and Type C (intermediate forms mimicking tumours) [6]. Our patient demonstrated a Type C thrombus, which is associated with local thrombus formation due to an underlying hypercoagulable state, yet the imaging findings were consistent with myxoma.

Transthoracic echocardiography (TTE) is a critical initial tool for diagnosing right atrial masses. Still, transesophageal echocardiography (TEE) and contrast-enhanced imaging provide superior delineation and are essential in differentiating thrombi from cardiac tumours or vegetations [7]. Management strategies for right atrial thrombi include systemic anticoagulation, thrombolytic therapy, and surgical thrombectomy. The choice depends on thrombus morphology, size, hemodynamic impact, and risk of embolisation. In addition, Immunomodulatory therapy with hydroxychloroquine can be initiated to reduce thrombotic risk, consistent with emerging evidence supporting its role in primary and secondary prevention in APLA [8].

Although target-specific oral anticoagulants (TSOACs), including the factor Xa inhibitors rivaroxaban and apixaban and the thrombin inhibitor dabigatran, do not require routine monitoring of their anticoagulant effects in clinical practice, recent case reports of patients with APLA syndrome experiencing recurrent thromboembolic events while on TSOAC therapy have raised concerns about their safety and effectiveness as alternatives in this highly prothrombotic condition [9]. EULAR 2019 recommends against TSOACs for APS patients with arterial events or triple positivity, favouring VKAs (target INR 2-3). Some societies conditionally permit DOACs in venous-limited APLA syndrome lacking high-risk features after VKA failure, though real-world data urges caution; ongoing trials evaluate apixaban/edoxaban in lower-risk venous APLA syndrome [10].

Furthermore, in patients with prior thrombotic events, intermediate- to high-intensity warfarin therapy is essential to prevent recurrent thrombosis [11].

The recognition of APLA as the underlying aetiology is crucial as it mandates lifelong anticoagulation and regular monitoring for recurrent thrombotic events. Furthermore, this case emphasises the need for a multidisciplinary approach involving cardiology, haematology, and rheumatology to optimise patient outcomes.

To our knowledge, this is among the few reported instances where an intracardiac thrombus was the primary event in a patient later diagnosed with APLA syndrome. This highlights the importance of considering autoimmune and hypercoagulable conditions in the differential diagnosis of unexplained intracardiac masses.

Statements And Declarations

Ethical Approval: Not applicable as per the institute policy for a single case report

Informed Consent: Informed consent has been obtained for this case report.

Conflict Of Interest: The authors have no conflict of interest to declare

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Statement Of Human And Animal Rights: This study involved only human participants and was conducted in accordance with the ethical standards of the institutional ethics committee, the Indian Council of Medical Research (ICMR) guidelines, and the 1964 Declaration of Helsinki and its later amendments. No animal studies were performed.

Author Contributions:

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

Concept And Design: Vimlendra Kumar Chaudhary, Palani Raj Suresh, Simon Philipose.

Acquisition, Analysis, Or Interpretation Of Data: Palani Raj Suresh, Simon Philipose, Vimlendra Kumar Chaudhary, Varghese T Panicker, Vivek V Pillai.

Drafting Of The Manuscript: Vimlendra Kumar Chaudhary, Palani Raj Suresh.

Critical Review Of The Manuscript For Important Intellectual Content: Varghese T. Panicker, Vivek V. Pillai, Simon Philipose

Supervision: Varghese T. Panicker, Vivek V. Pillai, Simon Philipose

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