# A rare case of aggressive Infected atrial myxoma


## Abstract:

Cardiac myxomas are known to be the most common primary benign intracardiac tumors in adults, but infected myxomas represent a rare and challenging complication. We report here the case of a 50-year-old patient with no prior medical history, admitted for febrile ischemic stroke, which revealed an infected left atrial myxoma, treated by surgery and antibiotics.

This case underscores the diagnostic and therapeutic challenges of infected cardiac myxomas, which can lead to severe complications such as systemic embolism. Given the rarity and nonspecific clinical presentation of this condition, timely diagnosis and management are crucial. While rapid surgical resection is often advocated due to the high embolic risk, careful assessment of the benefit-risk balance remains essential, particularly in patients with neurological compromise, as our patient. Further studies are warranted to establish a consensus on the optimal management of infected cardiac myxomas.



**Keywords:** Cardiac myxomas, intracardiac tumors, infected myxomas, atrial myxoma, embolism, antibiotics.


## Introduction:

Cardiac myxomas are the most common primary intracardiac tumors in adults. Myxoma's infection is a rare complication, which raises a diagnostic and therapeutic dilemma.

infected atrial myxoma are a very rare and curious condition. Only few cases are reported in the literature.

## Case Presentation:

Our case is about a 50-year-old patient with no previous medical history who was not known to be immunocompromised. The patient was admitted for febrile hemiplegia. A CT scan showed multiple ischemic strokes in both hemispheres. Further investigations, including trans-thoracic echocardiography, showed a large obstructive left atrial tumor adherent to the interatrial septum, measuring 61 x 21 mm, with prolapse across the mitral valve plane. The inferior extremity of this mass had an additional mobile structure, which made us suggest the presence of vegetations on the mass.

Laboratory data showed **hypochromic microcytic anemia** with a hemoglobin level of 12 g/dL, **thrombocytosis** with a platelet count of 520,000/µL, and an elevated white blood cell count of 20,680/µL. Additionally, there was a serum C-reactive protein concentration of 320 mg/dL. Most importantly, we also had three positive blood cultures for **Streptococcus faecalis**.

The patient's condition was later complicated by the development of acute ischemia of the lower limb despite appropriate antibiotic therapy based on the blood cultures. The patient was managed with urgent surgical resection due to the obstructive critreria and the high embolic potential. Antibiotics were adopted as described in the guidelines for infective endocarditis and used for 4 weeks after surgery. The patient’s postoperative recovery was uneventful.

Pathology revealed a 20g mass, made of myxomatous tissue, infiltrated by neutrophils cell and gram cocci positif debris, confirming a diagnosis of infected cardiac myxoma. the culture of the biopsy specimen didn’t grow any microorganism, probably due to the administration of antibiotics.

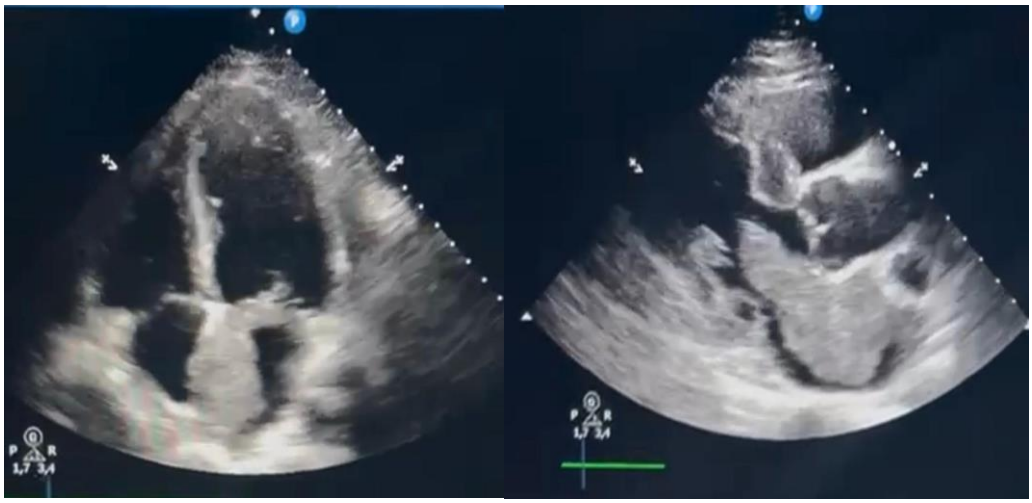

Figure 1 : Transthoracic echocardiography showing the left atrial myxoma.

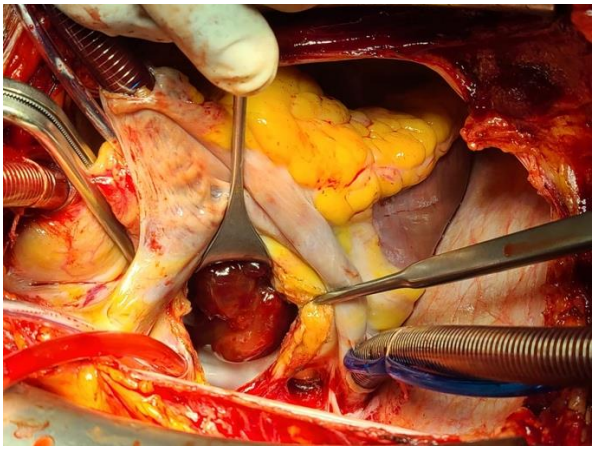

Fig 2 : Operative view revealing the tumor.

## Discussion:

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Myxomas are the most common primary cardiac tumors, occurring in approximately 0.0017% to 0.33% of autopsy series. The majority arise in the atria (75% in the left atrium and 20% in the right atrium) (1).

While Cardiac myxomas can be defined histologically by the predominant presence of stellate, fusiform, and polygonal cells situated within an amorphous myxoid matrix ( 2) , There is no widely used definition of infected cardiac myxoma.

This is complicated by the fact that myxomas, even without microbial involvement, may cause signs and symptoms suggestive of infection (3).

Revankar & Clark (3) proposed in 1998 a definition for infected cardiac myxoma at three levels, based on clinical and pathological findings:

### Definite infected cardiac myxoma

1. Documented myxoma by pathology and

2. a. Microorganisms seen on pathology or
   b. Positive blood cultures and inflammation on pathology.

Probable infected cardiac myxoma

1. Documented myxoma by pathology and
2. Positive blood cultures or inflammation on pathology.

Possible infected cardiac myxoma

1. Characteristic appearance by transthoracic or transesophageal echocardiography and
2. Positive blood cultures.

In our case, we had a documented myxoma thanks to pathology, we also had 3 positive blood cultures for streptococcus faecalis. Because of these conditions, a diagnosis of infected cardiac myxoma was confirmed.

In the study by Shi-Min Yuan (4), fever was the most common symptom, and constitutional symptoms were more frequent than obstructive or neurological symptoms. Complications developed in 12 patients. Of these, embolic events occurred in 10 (with 8 involving multiple sites or organs), sepsis in 4, disseminated intravascular coagulation in 3, and a lung abscess in 1. In the series by Revankar and Clark, 18 patients developed embolic events, and only one of them involved multiple sites.

Also, in the SHI-MIN Yuan study, of the 39 patients included, 17 tested positive for streptococcus, while 12 of them tested positive for staphylococcus.

Different germs responsible for myxoma infections have been described. In our case, three blood cultures tested positive for Streptococcus faecalis. In the literature, for example, Gemella morbillorum was isolated from the blood of a 38-year-old woman in a case reported by Tzung-Dau Wang (6), and Streptococcus mutans was identified as the pathogen responsible for myxoma infection in the case of P. Dekkers (7).

Some reports have stated that the risk of emboli with infected myxomas is higher than with uninfected myxomas (3). In fact, the incidence of embolization was reported to be two to three times higher in patients with infected than in those with non-infected cardiac myxomas, due to the fragile fibrin thrombus on the tumor surface, similar to infective endocarditis (5).

Conclusion :

This study examines a rare and deceptive case of infected atrial myxoma. Its goal is to recognize the difference between a simple myxoma and a superinfected myxoma to improve therapeutic management in the absence of consensus.

Disclaimer (Artificial intelligence):
Author(s) hereby declare that NO generative AI technologies such as Large Language Models and text-to-image generators have been used during the writing or editing of this manuscript.

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