

# Thrombus of the tricuspid valve leading to pulmonary embolism after a permanent pacemaker implantation

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## SUMMARY

A tumor, vegetation, or a thrombus may cause a mass on tricuspid valve. In addition to imaging methods patient's symptoms and clinical findings have paramount importance for correct diagnosis. We aimed to present a 36-year-old male patient with a thrombus on the tricuspid valve which was possibly related to pacemaker implantation.

**Key words:** *Thrombus, tricuspid valve*

## ÖZET

**Kalıcı kalp pili takılması sonucu gelişen ve pulmoner emboliye yol açan triküspit kapak üzerinde yerleşik trombüs**

Triküspit kapak üzerinde yerleşik bir kitle tümör, vejetasyon veya trombüs kökenli olabilir. Doğru tanıya varmada görüntüleme yöntemleri olduğu kadar, hastanın şikayetleri ve bulgular da büyük öneme sahiptir. Biz, kalp pili takılması sonrası geliştiğini düşündüğümüz, triküspit kapak üzerinde trombüslü 36 yaşında erkek bir hastayı sunmayı amaçladık.

**Anahtar kelimeler:** *Trombüs, triküspit kapak*

## Introduction

Tricuspid valve thrombus is a rare finding particularly in normal heart and may mimic cardiac tumors. We, herein, report a 36-year-old man with a thrombus of the tricuspid valve developing one year after a permanent pacemaker implantation.

## Case Report

A 36-year-old male who had a pulmonary embolus was transferred to our clinic from a regional hospital for the determination of the embolic source. He was taking intravenous heparin for four days at the time of admission. He had a previous history of ventricular septal defect (VSD) repair and a DDDR pacemaker implantation related to postoperative complete AV block one year ago. His physical examination was unremarkable with a grade 2/6 systolic murmur at the left lower sternal area. Electrocardiography (ECG) revealed sinus rhythm with nonspecific ST/T changes. Complete blood count, sedimentation and routine biochemistry tests were within normal limits. Transthoracic echocardiography (TTE) showed a mobile mass at the close vicinity of the pacemaker. Transesophageal echocardiography (TEE) revealed a 15 mm mobile thrombus with irregular shape attached to the anterior leaflet of the tricuspid valve (Figure 1). We examined closely his preoperative echocardiography records and did not find any clue about a right atrial mass. The patient refused surgical intervention, so medical therapy including warfarin was recommended.

## Discussion

A mass on tricuspid valve can be a thrombus, a tumor or vegetation (1). We excluded the vegetation possibility because of clinical findings not suggesting an infectious cause. Although a papillary fibroelastoma can be located in tricuspid valve, this kind of involvement is more frequent in children (2).

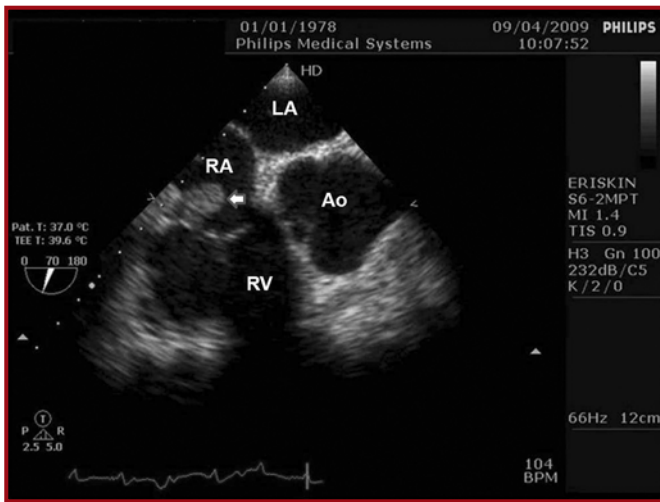
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**Date submitted:** August 18, 2010 • **Date accepted:** September 22, 2010



**Figure 1.** Transesophageal echocardiography showing a mobile thrombus attached to the tricuspid valve (arrow). RA-Right atrium; RV-Right ventricle; LA-Left atrium; Ao-Aort.

Moreover, echocardiographic appearance of the mass in our patient was not suggestive of a papillary fibroelastoma (3). There is no typical echocardiographic feature, which can be used in differentiating a

thrombus from a papillary fibroelastoma. Indeed, a papillary fibroelastoma can be mobile and has irregular shape with stalk as in our case. It can also cause pulmonary embolism. Unfortunately, we did not have pathologically supported evidence for a thrombus. Nevertheless, we suggested that tricuspid valve trauma related to pacemaker lead insertion leads to thrombus development in our patient. We also thought that the absence of right atrial mass presence in previous echocardiography reports supported our suggestion as well.

## References

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