1. Introduction

Cardiac haemangiomas are very rare benign tumours that can occur at any age and in any cardiac location. The clinical presentations of patients vary and preoperative diagnosis of cardiac haemangiomas is usually made using echocardiography and magnetic resonance imaging (MRI). Surgical resection is the treatment of choice and follow-up is recommended to avoid any recurrence. We report a particular case of cardiac haemangiomas which was referred to us and eventually managed conservatively. The medical history, physical examination and surgical/non-surgical management are discussed.

As a further line of investigation, an exercise tolerance test was ordered and although the patient remained asymptomatic, a hypotensive response to exercise with antero-septal ST depression at the peak of the exercise test was noted. Further imaging, such as echocardiography and a contrast computed tomography (CT)-scan identified a well-delineated soft tissue mass situated between the right pulmonary artery (RPA) and left atrium (LA) (see Fig. 1). It was bordered anteriorly by the ascending aorta and measured $35 \times 32 \times 20$ mm. There were no signs of local invasion and the mass was not seen to be compressing any adjacent structures or breaching the LA wall or the RPA. A coronary angiogram confirmed the presence of a vascular ridge mass in the LA as well four minor obstructions in the proximal left anterior descending (see Fig. 2). On Gadolinium administration, the mass appeared highly vascular which was suggestive of a cardiac haemangioma.

Since the patient only complained of the one episode of mild chest pain and responded well to various tests, the actual need for an elective surgical removal of the cardiac haemangioma was questioned. Taking the above into consideration and the fact that the haemangioma was not compressing any major vessels, we decided to manage the patient conservatively with health checks at his general practitioner and regular visits to our cardiovascular institute where the evolution of the haemangioma would be assessed. Lifestyle changes were recommended and blood pressure checks and control were also advised.

The patient has now been managed as a follow-up patient in our out-patient department for over a year and the haemangioma has not progressed any further. No additional incident has been reported.

An elective surgical procedure is still considered as an option if the haemangioma becomes more compromising.

**Case report - Thoracic non-oncologic**

**Conservative management of cardiac haemangioma**

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Abstract

Cardiac haemangiomas are rare forms of cardiac tumours which can present at any age and in any cardiac location. The clinical presentations of patients vary and preoperative diagnosis of cardiac haemangiomas is usually made using echocardiography and magnetic resonance imaging (MRI). Surgical resection is the treatment of choice and follow-up is recommended to avoid any recurrence. We report a particular case of cardiac haemangiomas which was referred to us and eventually managed conservatively. The medical history, physical examination and surgical/non-surgical management are discussed.

Keywords: Cardiac; Haemangioma; Conservative; Management

1. Introduction

Cardiac haemangiomas are very rare benign tumours that can occur at any cardiac locations, including the pericardium [1, 2]. A haemangioma can present with different symptoms, such as dyspnoea, palpitations, atypical chest pain and arrhythmias [2, 3] but the presenting symptoms differ greatly between patients based on the location of the tumour and its evolution [4, 5]. However, most patients suffering from cardiac haemangiomas remain asymptomatic and the haemangioma is incidentally discovered on clinical imaging or even at autopsy [6].

2. Case report

A 60-year-old male was referred to us after an initial presentation of atypical chest pain. The pain was described as a sudden onset, mildly discomforting sensation which was non-radiating and started with the patient at rest. It was relieved within a few minutes without any medication. No other symptoms were reported and the past medical history of the patient was non-contributory.

On examination, the patient was found to be obese (body weight 113.3 kg) and clinical observations included a heart rate of 72 beats/minute and a blood pressure of 111/73 mmHg. Cardiovascular examination was unremarkable with normal heart sounds and no murmurs. Respiratory examination was normal. An electrocardiogram (ECG) showed a normal sinus rhythm without any acute ischaemic changes. Chest X-ray was normal.

As a further line of investigation, an exercise tolerance test was ordered and although the patient remained asymptomatic, a hypotensive response to exercise with antero-septal ST depression at the peak of the exercise test was noted. Further imaging, such as echocardiography and a contrast computed tomography (CT)-scan identified a well-delineated soft tissue mass situated between the right pulmonary artery (RPA) and left atrium (LA) (see Fig. 1). It was bordered anteriorly by the ascending aorta and measured $35 \times 32 \times 20$ mm. There were no signs of local invasion and the mass was not seen to be compressing any adjacent structures or breaching the LA wall or the RPA. A coronary angiogram confirmed the presence of a vascular ridge mass in the LA as well four minor obstructions in the proximal left anterior descending (see Fig. 2). On Gadolinium administration, the mass appeared highly vascular which was suggestive of a cardiac haemangioma.

Since the patient only complained of the one episode of mild chest pain and responded well to various tests, the actual need for an elective surgical removal of the cardiac haemangioma was questioned. Taking the above into consideration and the fact that the haemangioma was not compressing any major vessels, we decided to manage the patient conservatively with health checks at his general practitioner and regular visits to our cardiovascular institute where the evolution of the haemangioma would be assessed. Lifestyle changes were recommended and blood pressure checks and control were also advised.

The patient has now been managed as a follow-up patient in our out-patient department for over a year and the haemangioma has not progressed any further. No additional incident has been reported.

An elective surgical procedure is still considered as an option if the haemangioma becomes more compromising.
Primary cardiac neoplasms are rare and have a prevalence of around 0.28% at autopsy [7]. Of these, 75% are benign and only 5% of benign primary cardiac tumours are haemangiomas which can be defined as a non-malignant vascular tumour consisting of blood vessels [1, 5, 6]. Histologically, haemangiomas can be classified into three main categories: cavernous type which is formed of dysplastic arteries and veins [5]. The arteriovenous type is the rarest but a combination of all three features can be seen in one same haemangioma [6, 8]. These lesions can involve the endocardium, pericardium or myocardium and out of the 54 cases described between 1998 and 2008, the most common location for a cardiac haemangioma was the left ventricle, followed by the right atrium, right ventricle and LA [1, 5]. Haemangiomas can present at any age and is equally prevalent in both men and women [5].

An echocardiogram is useful to determine the location of the haemangioma but transthoracic echocardiography (TTE), transoesophageal echocardiography (TEE), and CT are far more superior in terms of preoperative diagnostic investigations [4]. Magnetic resonance imaging (MRI) allows the hypervascular nature of the haemangioma to be demonstrated thereby confirming the diagnosis. Coronary angiography, which was done on our patient, usually reveals a characteristic vascular brush which highlights the vascular nature of the tumour [2, 5]. Cardiac haemangiomas have a heterogenous density on unenhanced CT and usually enhance greatly after the administration of an intravenous contrast agent (Gadolinium).

The natural evolution of a cardiac haemangioma is very unpredictable since it can either cease to grow and regress or proliferate over time [2, 9]. Surgical excision is usually the mainstay of treatment [5] and follow-up in terms of periodic echocardiographic examinations is usually recommended to identify any signs of recurrence [8, 10]. However, if the patient is not presenting with any symptoms and if the haemangioma is not compressing any major structures or compromising the patient haemodynamically, surgical management of the patient can be avoided. Here, the management of the cardiac haemangioma has been done conservatively with regular out-patient follow-up to assess if the haemangioma is evolving in any form.

4. Conclusion

Cardiac haemangiomas are rare forms of cardiac tumours and our case presented with non-specific cardiac symptoms leading to the incidental finding of a cardiac haemangioma. It was located between the RPA and the LA. The surgical risks and frequency of debilitating symptoms associated with the haemangioma were taken into consideration and contrary to common management, surgical excision of the tumour was not performed. The patient has being managed conservatively with regular out-patient follow-up to assess.

3. Comments

Primary cardiac neoplasms are rare and have a prevalence of around 0.28% at autopsy [7]. Of these, 75% are benign and only 5% of benign primary cardiac tumours are haemangiomas which can be defined as a non-malignant vascular tumour consisting of blood vessels [1, 5, 6]. Histologically, haemangiomas can be classified into three main categories: cavernous type which is composed of multiple dilated thin-walled vessels, capillary type which is made up of small capillary like vessels and arteriovenous type which is formed of dysplastic arteries and veins [5]. The arteriovenous type is the rarest but a combination of all three features can be seen in one same haemangioma [6, 8]. These lesions can involve the endocardium, pericardium or myocardium and out of the 54 cases described between 1998 and 2008, the most common location for a cardiac haemangioma was the left ventricle, followed by the right atrium, right ventricle and LA [1, 5]. Haemangiomas can present at any age and is equally prevalent in both men and women [5].

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After carefully reading the interesting case report of Beebeejaun and Deshpande concerning the conservative management of a cardiac hemangioma we would like to make a few comments.

The advanced imaging modalities of the heart result in more frequent detection of asymptomatic cardiac tumors. The authors’ remarkable persistence for the differential diagnosis of a likely atypical chest pain in a patient with no other symptoms and normal electrocardiogram and X-ray justified them in the end.

Cardiac hemangiomas are rare, vascular lesions which present an incidence of 1–2% among all detected benign heart tumors [2]. They may cause arrhythmias, hemopericardium or cardiac tamponade, complete heart block or even sudden death [3, 4]. In addition, these tumors have been incriminated for neurological manifestations [5]. In accordance with most authors the treatment of choice is a simple complete excision [2, 3, 5]. This method provides maximal or total excision, histologic classification, and improvement of clinical condition in symptomatic patients. The size and vascularity of these tumors dictate that surgery has to be undertaken with extreme cautiousness.

Due to the tumor’s potential devastating consequences and the fact that the tumor was amenable to a curative surgical resection (no signs of local invasion and no compressing phenomena to adjacent structures), we have to disagree on the conservative management followed by the authors [1]. However, the recommendation of regular, close follow-up of the patient is imperative and surgical procedure must be considered, should the patient becomes symptomatic.

References