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Official Publication of the Brazilian Society of Anesthesiology
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CLINICAL INFORMATION

Anesthesia for pulmonary trunk aneurysmorrhaphy

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Received 27 January 2013; accepted 22 March 2013

KEYWORDS

General anesthesia;
Anesthetic:
inhalational;
Surgery:
aneurysmorrhaphy

Abstract

Background and objectives: The aneurysm in the pulmonary trunk is a rare disease. Because of its location, a rupture can lead to right ventricular failure and sudden death. Aneurysmorrhaphy is the most widely used surgical treatment in these cases. The aim of this study is to report a successful balanced general anesthesia for aneurysmorrhaphy of pulmonary trunk.

Case report: Male patient, 28 years, asymptomatic, diagnosed with an aneurysm in the pulmonary trunk. According to the location of the aneurysm and the consequent failure of the pulmonary valve, an aneurysmorrhaphy was indicated, with implantation of vascular-valvular prosthesis (valved tube). We opted for a balanced general anesthesia, seeking to prevent an increase in systemic and pulmonary vascular resistances, thus avoiding to cause stress on the wall of the aneurysmal vessel.

Conclusions: A balanced general anesthesia, in combination with adequate ventilation to prevent elevation in pulmonary vascular pressure, was appropriate for surgical repair of an aneurysm in the pulmonary trunk.

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<http://dx.doi.org/10.1016/j.bjane.2013.03.027>

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PALAVRAS-CHAVE

Anestesia geral;
Anestésico:
inalatório;
Cirurgia:
aneurismorrafia

Anestesia para aneurismorrafia de tronco de artéria pulmonar

Resumo

Justificativa e objetivos: O aneurisma de tronco de artéria pulmonar é uma doença rara. Por sua localização, uma ruptura pode conduzir à falência do ventrículo direito e à morte súbita. A aneurismorrafia é o tratamento cirúrgico mais usado nesses casos. O objetivo foi relatar uma anestesia geral balanceada para aneurismorrafia de tronco de artéria pulmonar feita com sucesso.

Relato do caso: Paciente do sexo masculino, 28 anos, assintomático, diagnosticado com aneurisma de tronco de artéria pulmonar. De acordo com a localização do aneurisma e a consequente insuficiência da válvula pulmonar, foi indicada a aneurismorrafia com implante de prótese vascular e valvular (tubo valvado). Optou-se pela anestesia geral balanceada, para impedir um aumento nas resistências vasculares sistêmicas e pulmonar e evitar-se, dessa maneira, um estresse sobre a parede do vaso aneurismático.

Conclusões: A anestesia geral balanceada, em associação com uma ventilação adequada para evitar elevação na pressão vascular pulmonar, foi apropriada para correção cirúrgica de um aneurisma em tronco pulmonar.

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Introduction

Aneurysm is the focal dilatation of a vessel. Although it may occur in vessels of the venous system,¹ it is more frequent in arteries and affects its three tunics (intima, media, and adventitia). It is classified as fusiform, if symmetric and dilatation involving the entire circumference, or saccular, if asymmetric and only a part of the circumference is dilated.

Unlike the aorta, which is the most affected by that disease, pulmonary artery aneurysm (PAA) is a rare occurrence.² However, even in a low pressure circuit as the lung, it is subject to the same hemodynamic forces that promote the growth of the aorta or other arteries when affected by an aneurysm.²

The etiological causes of disease may be idiopathic, congenital heart defects (e.g., *patent ductus arteriosus*), vasculitis (autoimmune, postinfection or genetic factors), and connective tissue diseases such as Marfan syndrome, among others.^{3,4}

Clinically, it may be manifested by dyspnea, cough, hemoptysis, and chest pain.³ However, most patients with PAA are asymptomatic.^{2,5} The diagnosis is made at random by routine screening.

The presence of pain is a symptom that indicates impending rupture. In this case, surgical treatment is recommended to prevent sudden death (SD) caused by the aneurysm rupture and right ventricle (RV) failure.⁶

Even when there is no pain, but the pulmonary trunk is involved, the risk of SD is also high for the same reasons cited above, and many authors suggest surgery.⁷

We report a rare case of anesthesia for surgical treatment of pulmonary trunk aneurysm (aneurysmorrhaphy) in an asymptomatic patient with Marfan syndrome.

The purpose of anesthesia was to keep under control both systemic blood pressure (SBP) and pulmonary arterial pressure (PAP).

Therefore, we sought to avoid rupture of the aneurysm, its disastrous consequences in vascular site, and possible damage after surgical correction.

Case report

Male patient, 28 years old, white, 67 kg, 1.90 m, diagnosed with a pulmonary trunk aneurysm, without other comorbidities.

The patient had no signs or symptoms of the disease. The diagnosis was made during a periodic medical examination at the company where he worked.

In the evaluation of the first tests, an increased heart size by the growth of the right ventricle and pulmonary artery trunk was noticed (Fig. 1). The electrocardiogram showed a deviation of the QRS axis to the right and a right bundle branch block.

A Doppler echocardiography was requested, which revealed moderate dilatation and hypertrophy of the right

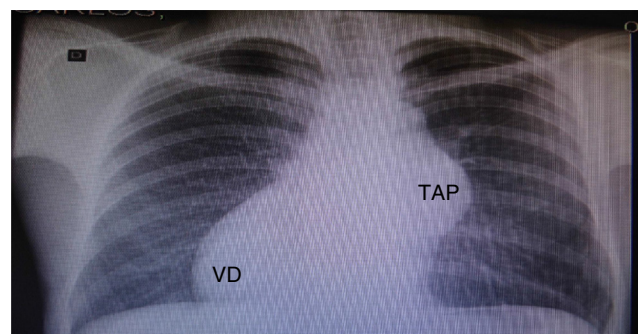


Figure 1 Chest X-ray: TAP aneurysm, increased VD, and deviation of the cardiac area to the right. TAP, pulmonary artery trunk; VD, right ventricle.

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