Clinical Cases

SERINOMA: REPORT OF A CASE SECONDARY TO MODIFIED SYSTEMIC TO PULMONARY BLALOCK SHUNT

Jose A. Quibrera-Matienzo MD, Gabriel Camacho-Alva MD, Raul Morales-Cuevas MD
Pediatric Hospital of Sinaloa, Mexico

SUMMARY

The performing of a systemic-to-pulmonary artery shunt (modified Blalock-Taussig) with (polytetrafluoroethylene) tubular grafts is a palliative procedure used frequently in congenital heart disease with obstruction of pulmonary blood flow.

The development of serinoma surrounding the graft is an unusual complication of this procedure. We present a nine months old patient that develop right pleural effusion associated to this entity, that decrease spontaneously with persistence of the radiological image of the serinoma at two years follow up.

Key words. Pulmonary atresia; serinoma; Blalock Taussig shunt

INTRODUCTION

The goretex graft (polytetrafluoroe thylene, PTFE) has been used to perform the systemic to pulmonary shunt (Blalock Taussig operation). Their use allows better control of the flow, avoid distortion of the pulmonary arteries and preserve the distal circulation toward the subclavian artery. Occasionally important flight of serous liquid can exist through the interstice of the implant, what leads to excessive drainage and pleural effusion, or the development of a serinoma around the implant, defined this as the collection of clear and sterile liquid in a fibrous pseudo membrane.

The incidence of this complication varies from 2 to 18% of the surgeries for modified Blalock shunts, and it occurs at any age.

Its clinical presentation usually happens between the second to the 12 postoperative weeks, with dyspnea secondary to the effusion.

CORRESPONDENCE: Jose A. Quibrera-Matienzo Donato Guerra y Constitución (without number)Colonia Almada, 80200 Culiacan, Sinaloa, México Phone number: 52 66 77 13 58 07 Fax: 52 66 77 12 89 60, e-mail: jaqum@clm.megared.net.mx

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Its treatment depends on the magnitude of the effusion that has been created; its natural history shows that can be self limited, could needs the use of substances for waterproof the implant or replace the shunt with a new surgery.

CLINICAL CASE DESCRIPTION

The patient is a 9 months old male with pulmonary atresia and interventricular septal defect without treatment and secondary hipercyanotic spells, and moderate delay in their development. The echocardiogram shows absence of the pulmonary trunk and flow to the confluent pulmonary arteries through a ductus arteriosus. A right systemic to pulmonary shunt was placed with a 5 mm PTFE graft and he was discharged after five days. Two days later he return to hospital with moderate dyspnea and the X ray showed a right pleural effusion affecting the entire lung, and a chest tube was placed. A rounded image was observed in the right superior margin of the heart (Figure 1A), suspecting the development of an aneurism in the place of the shunt or a serinoma; a CT scan and the selective angiography in the right subclavian artery confirmed this last diagnosis (Figures 2 and 3).

The pleural effusion was diminishing gradually and he was discharged after five days. His outcome shows the characteristic of the heart disease awaiting surgical correction and persistence of the radiological image of serinoma (Figure 1B).

DISCUSSION.

The development of a serinoma in the course of a modified systemic to pulmonary shunt with a PTFE graft (modified Blalock-Taussig operation) is a rare complication whose frequency varies from 2 to 18% with no sex or age preference. In its pathogenesis has been postulated the existence of a fibroblastic humoral inhibitory factor with molecular weight of 2000 d that leads to failure of migration and incorporation from fibroblasts in the vascular surface of the implant. It has been associated to the trans and postoperative use of

FIGURE 1. Above: Chest X ray after chest tube drainage showing a rounded image in the right superior vascular margin; below: persistence of the image at two years (darts

FIGURE 2. Thorax CT scan: the arrow shows the goretex graft; the asterisk points the serinoma.
heparin², as well as hypofibrinogenemia and high levels of antitrombine II, protrombine 1 and 2 and products of fibrine degradation¹, suggesting an abnormal reaction to the graft that affects the clotting and fibroblast migration.

At 2 years of follow up he remains with minimum symptoms for his heart disease, with a functional shunt and persistence of the radiological image¹².

REFERENCES

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