



Crutch-Induced Aneurysms of the Bilateral Upper Arms

Ippei Takazawa, Shin-ichi Ohki and Yoshio Misawa*

Department of Surgery, Jichi Medical University, Japan

Abstract

In 2009, we reported a 57-year-old patient with crutch-induced aneurysms of the bilateral upper extremities. Repeated thromboembolic episodes of the right arm required surgical intervention. The aneurysm (15 mm diameter) of the left brachial/axillary artery remained untreated at that time. Eight years later, the aneurysm of the artery became enlarged and thrombosed. The patient underwent successful additional resection of the aneurysm and revascularization with an autologous saphenous vein graft. Chronic axillary crutch users are at increased risk of developing axillary and/or brachial artery stenosis, aneurysms, and secondary thromboembolic episodes in the upper extremities. They should be aware of the possibility of crutch-induced vascular injury and be followed with serial imaging even though no ischemic episode of the upper extremity has been recognized.

Introduction

Chronic axillary crutch users are at increased risk of developing axillary and/or brachial artery aneurysms. The complications of the axillary aneurysm could include aneurysmal rupture and peripheral thrombosis of the upper extremities. Herein, we report a case with crutch-induced aneurysms of the bilateral upper arms.

Case Presentation

In 2009, we reported a 57-year-old patient with bilateral brachial/axillary artery aneurysms who was a chronic axillary crutch user because of childhood poliomyelitis [1]. Repeated thromboembolic episodes of the right upper extremities required surgical intervention. The thrombosed aneurysm of the artery was resected and the artery successfully re-vascularized by interposing a saphenous vein graft. The aneurysm (15 mm diameter) of the left brachial/axillary artery remained untreated at that time. His postoperative course had been uneventful under warfarin anticoagulation therapy.

Eight years later, however, the aneurysm of the left brachial/axillary artery became enlarged and thrombosed (Figure 1). The patient gave an informed consent for a prophylactic surgical treatment of the aneurysm and he underwent successful additional resection of the aneurysm and revascularization with an autologous saphenous vein graft. He has been under the anticoagulation therapy, and he is doing well without any ischemic episodes of the bilateral upper arms nine months after the second operation.

Discussion

Chronic axillary crutch users are at increased risk of developing axillary and/or brachial artery stenosis, aneurysms, and secondary thromboembolic episodes in the upper extremities [2-4]. Von der Horst showed a case with an emergent treatment approach for a ruptured axillary

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*Correspondence:

Yoshio Misawa, Department of Cardiovascular Surgery, Jichi Medical University, 3311-1 Yakushiji, Shimotsuke, Tochigi, 329-0498, Japan, Tel: 1285587368; Fax: 81285446271; E-mail: tcvmisa@jichi.ac.jp

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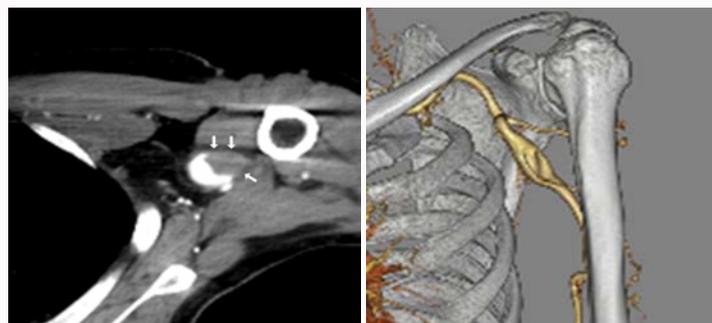
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Figures 1: Eight years later, however, the aneurysm of the left brachial/axillary artery became enlarged and thrombosed.

artery aneurysm, involving endovascular plugging and immediate subsequent open hematoma evacuation. Moon and colleagues reported two cases with axillo-brachial arterial injuries secondary to crutch trauma as a source of recurrent emboli to an upper extremity [5]. They hypothesized that a crutch-induced artery injury caused embolisms, and their patients had no aneurysms. The treatment of crutch-induced vascular injury must be performed before definitive sequelae develop. In our case, serial follow-ups of the crutch-induced aneurysm led to an adequate time for the treatment, and the patient underwent the second operation before ischemic episodes occurred. Most cases can be treated successfully with surgical excision and vascular grafting as our case [6,7]. And, some might respond to percutaneous transluminal angioplasty of a focal artery stenosis [8].

In conclusion, crutch users should be aware of the possibility of crutch-induced vascular injury and be followed with serial imaging even though no ischemic episode of the upper extremity has been recognized.

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