Complication of carotid stenting: incomplete misdeployment of the stent in the femoral artery

Tanina Rolf*, Juan F. Iglesias†, Salah D. Qanadli‡, Michel Hurni§, Ludwig K. von Segesser*

*Department of Cardiovascular Surgery, Lausanne University Hospital, Rue du Bugnon 46, 1011 Lausanne, Switzerland
†Department of Cardiology, Lausanne University Hospital, Switzerland
‡Department of Radiology, Lausanne University Hospital, Switzerland

Received 14 December 2010; received in revised form 18 February 2011; accepted 28 February 2011

Abstract

Objectives: The presence of intravascular foreign bodies is underreported in the literature and is more commonly encountered in clinical practice. We report on a case where an attempt to position a carotid stent resulted in misdeployment of the stent in the femoral artery and its surgical removal.

Methods: A 63-year-old patient admitted to hospital for cerebral stroke underwent thrombolysis for occlusive dissection of right carotid artery and was transferred to our hospital for additional thrombo-aspiration and carotid stenting.

Results: The carotid stent was misdeployed incompletely in the femoral artery and had to be removed surgically.

Conclusions: Appropriate knowledge of intravascular migration and deployment failure management should be considered as important as the optimal device deployment.

Keywords: Carotid stenting; Femoral artery; Stent deployment

We report on a 63-year-old patient who was admitted to a peripheral hospital for a left hemisyndrome associated with left temporal headache. For 10 days he had moderate fever associated with cough. He was known for arterial hypertension and smoking (stopped). The computed tomography (CT)-scan showed an ischemic stroke (right sylvian artery) and an occlusive dissection of the right carotid artery and an occlusion (T-form) of the carotid siphon. The patient had an intravenous lysis 75 min after the beginning of the symptoms. He was then transferred to our hospital for endovascular treatment. When he arrived he presented a deviation of the eyes to the right side, a probable lateral left homonymous hemianopsy and a sensitive-motoric hemisyndrome of the left side with facio-brachial predominance. The transcatheter thrombo-aspiration under a general anesthesia was successful by reopening the carotid-sylvian occlusion (TIMI 3) (Fig. 1). A carotid stent (8/40 mm, eV3, Plymouth, MN, USA) deployed in the right femoral artery (Fig. 2) and the guide and stent had to be surgically removed (Fig. 3) with good result. The patient was admitted to the operation theatre in emergency with a placed Femostop system. The stent was removed as well as the introducer after common femoral arteriotomy then the common femoral artery was sutured.

The neurological development was partially good but there were still a left facio-brachio-crural left hemisyndrome, tactile hemineglect, a right miosis and deglutition troubles when the patient was discharged five days later.

The origin of the carotid dissection was possibly due to coughing exertion or spontaneous hypertensive. An antihypertensive treatment was maintained and an antiaggregate treatment was introduced.

The misdeployment of the stent was mainly explained by the difficulties during endovascular navigation due to bra-
choccephalic trunk tortuosity and spasms in the common and internal carotid segments.

The incidence of stent deployment failure was estimated to be as high as 3.3% in a series of coronary interventions [1] and up to 8.3% [2] in other series. Probably, the presence of symptomatic or asymptomatic intravascular/intracardiac foreign bodies is underreported in the literature [3], but it is more commonly encountered in clinical practice. Appropriate knowledge of intravascular migration and deployment failure management should be considered as important as the optimal device deployment.

References