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Pathologically dissimilar acute stent thromboses in a metal allergic patient

**Takao Konishi^{a,b}, Daisuke Hotta^a, Naohiro Funayama^a,
Tadashi Yamamoto^a, Hiroshi Nishihara^b and Shinya Tanaka^b**, ^aDepartment
of Cardiology, Hokkaido Cardiovascular Hospital and ^bDepartment of Cancer
Pathology, Graduate School of Medicine, Hokkaido University, Sapporo, Japan

Correspondence to Takao Konishi, MD, Department of Cardiology, Hokkaido
Cardiovascular Hospital, 1-30, West 13, South 27, Chuou-ku, Sapporo 064-8622,
Japan
Tel: +81 11 563 3911; fax: +81 11 551 3109;
e-mail: takaokonishi0915@gmail.com

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A 66-year-old man was hospitalized with an acute infero-lateral myocardial infarction. A stent thrombosis (ST) developed immediately after implantation of a stent in the distal right coronary artery (Fig. 1a–c). After multiple angioplasty balloon dilatations and insertion of an intra-aortic balloon pump, the formation of thrombi finally ended. The next day, the patient developed recurrent chest pain and an emergent coronary angiography

Fig. 1

Acute stent thromboses. (a) Coronary angiography (CAG) showing the first acute stent thrombosis (ST) after stent implantation. (b, c) The intravascular ultrasound (IVUS) confirmed homogeneous fibrous thrombus (arrow), and multiple white and red thrombi were aspirated (arrows). (d) CAG showing the second ST. (e, f) The IVUS showed heterogeneous thrombus (arrow) and several red thrombi were aspirated (arrows).

Fig. 2

Histopathological examination of aspirated thrombi. (a) The thrombi aspirated on the first day were composed of fibrin and atherosclerotic plaque with foam cells. (b, c) The thrombi aspirated on the second day contained large numbers of eosinophils on direct fast scarlet staining.

indicated the presence of another acute ST (Fig. 1d–f). Although the patient had no history of metal allergy, a skin patch test elicited a positive response to nickel, cobalt, and chromium, metals included in the composition of the implanted stent. Histopathological examination of thrombi aspirated on the first day showed that they were composed of atherosclerotic plaque with foam cells (Fig. 2a), whereas the thrombi aspirated on the second day contained large numbers of eosinophils with fibrin and erythrocytes on direct fast scarlet staining (Fig. 2b and c). These observations suggested that the first ST was caused by atherosclerotic plaque and thrombus protrusion [1], whereas the second was because of metal allergy. After administration of prednisolone, 10 mg daily, no further ST has been observed. As hypersensitivity to drug-eluting stent components has

been reported [2], an allergy to the device should be included in the differential diagnosis of recurrent acute ST.

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Conflicts of interest

There are no conflicts of interest.

References

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