

Myocardial ischemia caused by external compression due to shotgun bullets 🎯

Cardiac injuries resulting from shotgun bullets may be life-threatening and are often fatal (1). People who sustain a bullet injury to the myocardium repeatedly do not have a chance to receive medical or surgical treatment. They usually die due to cardiac tamponade or hemorrhagic shock (2). Some fortunate cases with acute or chronic myocardial ischemia can be treated successfully (3). Here we present the case of a patient with metallic shotgun bullets in the myocardium.

A 48-year-old healthy farmer was wounded with shotgun bullets in his chest during a fight. Thereafter, he had exercise and stress induced retrosternal chest pain. He was referred to cardiology department 3 weeks later due to increase in the severity of chest pain.

Physical examination showed four bullet-entry holes on his chest. A 12-lead electrocardiography (ECG) showed T wave inversions in inferior leads. Cardiac markers were within normal ranges. Myocardial perfusion scintigraphy showed ischemia in the lateral and inferior segments. Coronary angiography revealed a critical stenosis in proximal third of the left circumflex coronary (Cx) artery, secondary to external compression of an adjacent metallic bullet. This bullet was moving together with the critical stenosis of the Cx artery and was constantly observed in the proximal segment when images were obtained from different angles. Therefore, it was thought that the stenosis was primarily compressed externally in the proximal Cx artery. The external compress could be revealed with intravascular ultrasound (IVUS). However, IVUS catheter was not available at our laboratory. There were three more metallic bullets. Two of them

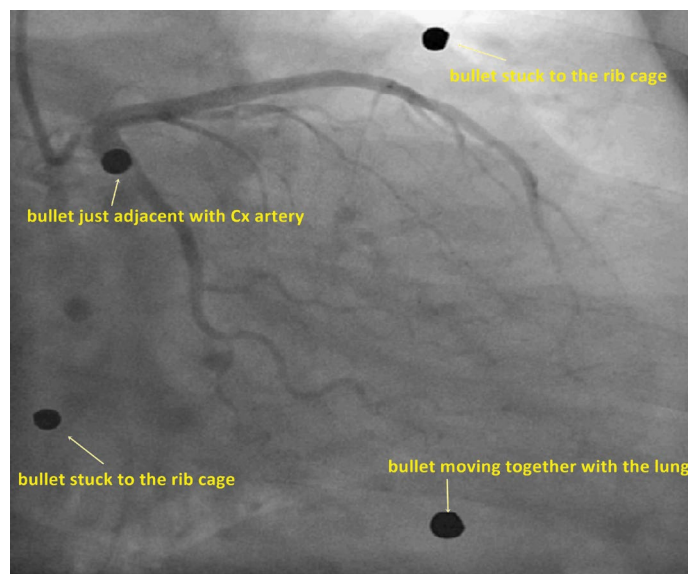


Figure 1. Coronary angiography demonstrating external compression of circumflex coronary artery by a shotgun bullet

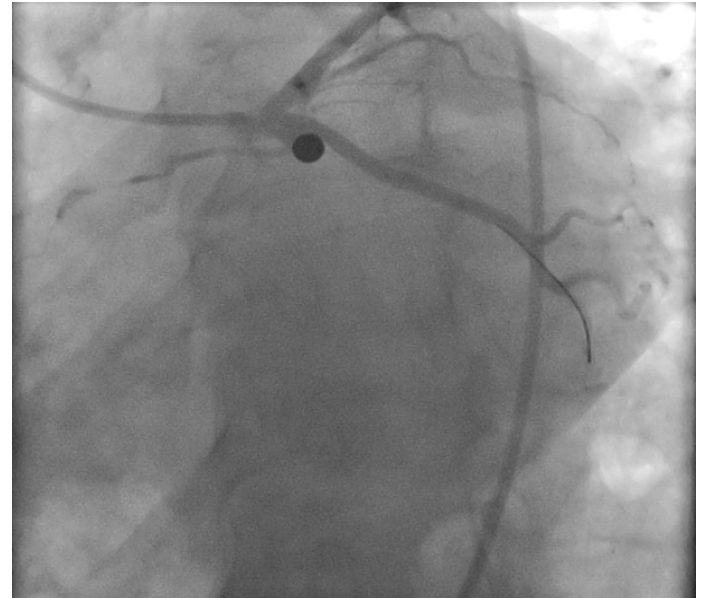


Figure 2. Image after stent implantation and post-dilatation with non-compliant balloon dilatation catheter

were fixed in the rib cage. One of the bullets was in the lung (Fig. 1, Video 1). A drug-eluting stent (3.0×16 mm Cre8™ EVO, Alvimedica, Turkey) was implanted in the coronary stenosis and post-dilated with a non-compliant balloon dilatation catheter (3.5×9 mm Simpax NC^R Simeks, Turkey) (Fig. 2, Video 1). The patient was free of symptoms after intervention. At 3-month follow-up, he continued to be asymptomatic, and ECG was normal.

References

1. Fragomeni LS, Azambuja PC. Bullets retained within the heart: diagnosed and management in three cases. *Thorax* 1987; 42: 980-3.
2. Symbas PN, Vlasiv-Hale SE, Picone AL, Hatcher CR Jr. Missiles in the heart. *Ann Thorac Surg* 1989; 48: 192-4.
3. Kronson JW, Demetriades D. Retained cardiac missile: an unusual case report. *J Trauma* 2000; 48: 312-3.

Bedri Caner Kaya, **Veysel Tosun**¹

Department of Cardiology, Mehmet Akif Inan Training and Research Hospital; Şanlıurfa-Turkey

¹Department of Cardiology, Şanlıurfa Training and Research Hospital; Şanlıurfa-Turkey

Video 1. Successful treatment of the stenosis of circumflex coronary artery with percutaneous coronary intervention.

Address for Correspondence: Dr. Veysel Tosun,
Şanlıurfa Eğitim ve Araştırma Hastanesi, Kardiyoloji Kliniği,
Şanlıurfa-Türkiye
Phone: +90 553 771 95 23
E-mail: veyseltosun8810@gmail.com

©Copyright 2018 by Turkish Society of Cardiology - Available online at www.anatoljcardiol.com

DOI:10.14744/AnatolJCardiol.2018.66267