

A BULLET NUCLEUS MOBILE WITH CARDIAC CYCLE

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ABSTRACT

We hereby report a case of atypical chest pain after a firearm injury occurring 20 years ago, which remained asymptomatic throughout the years. The patient had a positive treadmill exercise test and his coronary angiographic examination revealed plaque lesions and a bullet embedded in the myocardium. The bullet could not be localized clearly by echocardiography or computerised tomography due to the shiny nature of the metal. Penetrating gun traumas are quite frequent

in developed countries and in countries in war, with most of the cases ending with death. A situation similar to our case was reported only once in the medical literature. Firearm injuries lead to free mural perforations, fistulisations between cardiac spaces and pericardial tamponade. Usually the patients die before reaching the hospital. But in asymptomatic patients, the bullet may be found as embedded in the myocardium.

Key Words: Bullet, myocardium, mobile. *Nobel Med* 2012; 8(2): 116-117

KARDİYAK SIKLUSLA HAREKET EDEN MERMİ ÇEKİRDEĞİ

ÖZET

Yirmi yıl önce ateşli silahla yaralandıktan sonra asemptomatik kalarak atipik göğüs ağrısıyla başvuran; efor testi pozitif saptanarak koroner anjiyografi uygulanan ve sadece plaklı lezyonlar saptanan, bunun yanısıra miyokardında gömülü bir kurşun bulunan bir vakayı bildiriyoruz. Kurşunun yeri, metalin parlamasından ötürü, ekokardiyografi veya bilgisayarlı tomografide net olarak belirle-

nemez. Penetre silah yaralanmaları gelişmiş ve savaşın olduğu ülkelerde sık karşılaşılan bir durum olup büyük bir kısmı ölümlü sonuçlanmaktadır. Bizim vakamızdaki gibi bir durum ise literatürde sadece bir kez bildirilmiştir. Ateşli silahla yaralanma, serbest duvar yırtılmasına, kalp boşlukları arasında fistülizasyon ve perikardiyal tampona da yol açabilir. Hastalar genellikle hastaneye ulaşmadan hayatlarını kaybederler. Hasta asemptomatikse, kurşun miyokarda gömülü bir vaziyette bulunabilir.

Anahtar Kelimeler: Kurşun, miyokard, hareketli. *Nobel Med* 2012; 8(2): 116-117

INTRODUCTION

Penetrating gun traumas are quite frequent in developing countries and in countries in war, with most of the cases ending with death. Firearm injuries lead to free mural perforations, fistulisations between cardiac spaces and pericardial tamponade. Usually the patients die before reaching the hospital. But in asymptomatic patients, the bullet may be found as embedded in the myocardium. We hereby report a case of atypical chest pain after a firearm injury occurring 20 years ago, which remained asymptomatic through the years.

atypical chest pain for three months. He was wounded by a gun bullet 20 years ago at the right 8th intercostal space. He was hypertensive and his family history was positive for cardiovascular diseases. He was a massive smoker.

The physical examination was found to be normal. The laboratory parameters were in normal ranges except triglyceride levels. Telecardiography showed the bullet at the base of the cardiac silhouette. Electrocardiography was found to be normal but the treadmill exercise test was positive though coronary angiography was performed and it showed the plaque on the proximal left anterior descending artery.

CASE REPORT

A 51-years-old man was admitted to our clinic with

All images showed the bullet in the inferior-basal of the heart which is synchronously mobile with the cardiac motion. →

DISCUSSION

Penetrating gunshot to heart is not seen rarely in the developing countries and the era of war and most of them end with death. In literature we found only one similar case reported by Shogov et al. patient was wounded when he was 22 years old and diagnosed during an arteriovenous sac operation when he was 61 and died when at 7.¹ Selinger et al. reported a patient with penetrating heart injury from a gunshot whom developed a left ventricular-right atrial fistula. The patient remained relatively asymptomatic approximately for 50 years before the onset of congestive heart failure necessitated an operation.² Karpenko et al. reported a patient with sub-acute septic endocarditis developed after gunshot heart injury.³ Shevchenko et al. reported a patient with abscess-forming septic endocarditis developed after a gunshot wound to the heart.⁴ Kaplan et al. reported that they removed a bullet nucleus from the myocardium of a patient, during the cardio-pulmonary by-pass operation. They reported also another patient with a bullet nucleus in the pericardial space which didn't injure the myocardium. Bullet embolism was also reported in some cases.⁵⁻⁹

Gunshot injury can cause free wall rupture, fistula among cardiac chambers and pericardial tamponade. Patient usually die before admittance to the hospital.

Hospitalized patients usually have the necessity for an urgent open cardiac surgery. Echocardiography and coronary angiography may be performed to the elective patients with a bullet image on the cardiac

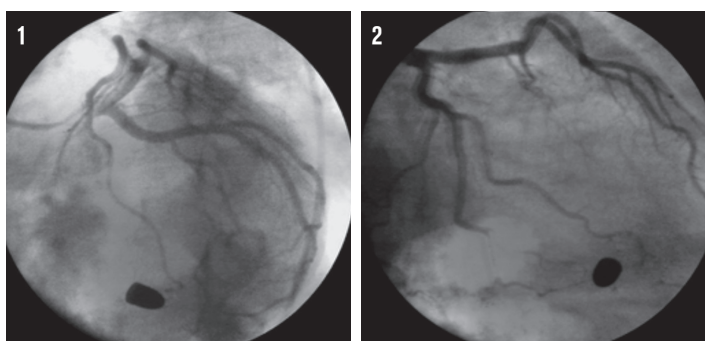


Image 1-2. Bullet image shown as embedded into myocardium by coronary angiography.

silhouette. If bullet is determined in any chamber of the heart, it is necessary for a cardiac operation. If patient is asymptomatic, the bullet may be found embedded into the myocardium.¹⁰

Our case has been living for 20 years with a bullet, without any cardiac or another complaint. Localization of the bullet could not be determined precisely neither by echocardiography nor computerized tomography due to shining of the metal bullet. Coronary angiography did not showed a serious defect though the patient was recommended for routine controls.

CONCLUSION

Our case showed undefined images at telecardiography with clear borders should be searched carefully for the differential diagnosis and it should be kept in mind that a bullet nucleus might a very infrequent cause in patients without another diagnosis hence the patient's history should be carefully taken.



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