Spontaneus Coronary Artery Disection Resulted From Severe Smoking and Prolonged Insomnia

M. Bilal Çeğin[1], Cemalettin Aydın[2]

ABSTRACT

Spontaneous coronary artery dissection (SCAD) is rarely observed. Percent of 80 has not additional risk factor for coronary artery diseases and observed in young women who uses oral contraceptive or during peripartium period. This case is SCAD in a male patient who presents with symptoms suggestive acute myocardial ischemia and is under severe smoking and prolonged insomnia.

Key words: *Spontaneous, coronary, dissection*

Şiddetli Sigara ve Uzamış İnsomnia'ya Bağlı Gelişen Spontan Koroner Arter Diseksiyonu

ÖZET

Spontan koroner arter diseksiyonu nadir görülür. Olguların %80'ninde koroner arter hastalığı için ek bir risk saptanmamıştır ve peripartum dönemde veya oral kontraseptif kullanan kadınlarda gözlenmiştir. Bu olgu sunumunda akut myokardiyal iskemi belirteleri ile gelen ve ağır sigara içicisi olan uzamış insomniyalı erkek bir hastada gelişen spontan koroner arter diseksiyonu sunulmuştur.

Anahtar kelimeler: *Spontan, koroner, diseksiyon*

INTRODUCTION

Spontaneous coronary artery dissection (SCAD) is rarely observed cases among atherosclerotic coronary artery patients. These cases have not additional risk factor for coronary artery diseases. 80% of reported cases are female and associated with pregnancy and/or oral contraceptive (1). The diagnosis of SCAD should be strongly considered in any patient who presents with symptoms suggestive acute coronary syndrome. The diagnosis can be established by urgent coronary angiography and that is also needed to determine the appropriate therapeutic approach.

CASE

A 21 year old male patient came to emergency service with chest pain. Patient reported no previous cardiac problem and has no risk factor for coronary artery diseases in history (Nondiabetic, normotensive, nonsmoking and normal lipids level). However patient was just started smoking (1-1.5 pocket/day) 5 weeks ago due to examination in university. He appeared to be healthy with a blood pressure of 110/70 mm Hg and a heart rate of 83 bpm. Cardiac Physical examination of patient was normal. Typical dynamic ST-T change was present in precordial derivation at electrocardiographic examination (Figure 1). Patient was hospitalized for unstable angina pectoris. On coronary anjiography SCAD starting from proximal to LAD to midportion was observed in coronary angiography (Figure 2). Internal mammarial artery with CABG was applied.

DISCUSSION

SCAD is an unusual cause myocardial ischemia. The majority (80%) has occurred in young women during the peripartum period or in association with oral contraceptive use (1).The clinical presentation relates to the ex-

[1]*Gaziosmanpasa University, School of Medicine, Department of Dermatology, Tokat, Turkey,* [2]*Istanbul Medeniyet University Faculty of Medicine, Goztepe Research and Training Hospital, Department of Dermatology, Istanbul, Turkey*

Received: 15.05.2010, Accepted: 06.10.2012

Correspondence:Dr. Bilal Çeğin
Gaziosmanpasa University, School of Medicine, Department of Dermatology, Tokat, Turkey,

tent and rate of dissection as well as the degree of myocardial ischemia (2). Patients may present with chronic stable angina, acute coronary syndromes, myocardial infarction, cardiogenic shock, sudden cardiac death, or pericardial tamponade. Sudden death may occur particularly in left main coronary artery (LMCA) dissection (3). The etiology of SCAD is multifactorial. Several authors have speculated that dissection during pregnancy may be due to changes in the media due to increasing hormone levels, in addition to the shear stress present during labor (3,4). In some patients, intense coronary vasospasm is thought to result in SCAD (5). Smoking may also have a detrimental effect on coronary flow. In a case control study, smoking significantly increased the risk for vasospasm; the adjusted odds ratio for smoking as a risk factor for vasospasm was (6). In addition smoking adversely affects endothelial function (7), and platelet aggregation (8). The majority of early cases of SCAD were diagnosed at autopsy (3,9) However, The diagnosis of SCAD should be strongly considered in any patient who presents with symptoms suggestive acute myocardial ischemia. The diagnosis can be confirmed by urgent angiography. Spontaneous coronary artery dissection was thought to be caused by heavy smoking and stress in our case, because patient had no previous atherosclerosis risk factors. It is very likely that spontaneous coronary artery dissection was due to endothelial injury caused by acute effect of smoking in this case. The diagnosis of SCAD should be strongly considered in any patient who presents with symptoms suggestive acute myocardial ischemia without traditional risk factors for CAD.

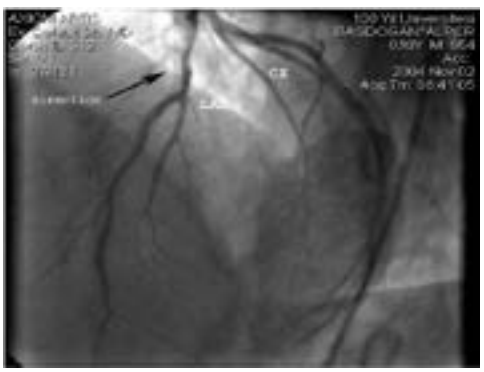

***Figure 1**. LAD to midportion is pointed out with arrow Artery disection starting from proximal LAD*

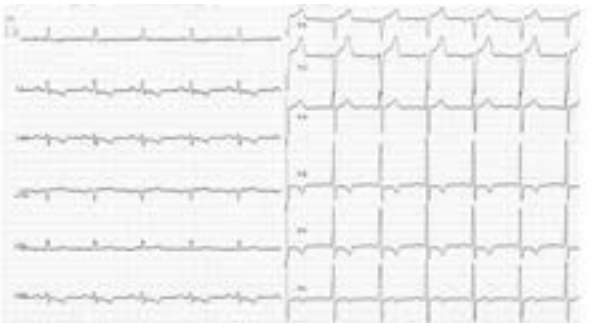

***Figure 2**. Dymimic ST-T changes of patient with coranary disection on ECG (V1-V6)*

REFERANCES

1. *Frances QA, Sameer B, Clifford JK. Spontaneous coronary artery dissections, Reviews. Clin Cardiol 2004;27;377-80.*
2. *Zampieri P, Aggio S, Roncon L, et al. Follow up after spontaneous coronary artery dissection: A report of five cases. Heart 1996;75:206-9.*
3. *Cohen DE, Strimike CL. A case of multiple spontaneous coronary artery dissections. Cathet Cardiovasc Interv 2000;9:318-20.*
4. *Koul AK, Hollander G, Moskovits N, Frankel R, Herrera L, Shani J. Coronary artery dissection during pregnancy and the postpartum period: Two case reports and review of literature. Cathet Cardiovasc Interv 2001;52:88-94.*
5. *Imamura M. Acute myocardial infarction in a patient with primary coronary dissection and severe coronary vasospasm. A case report. Angiology 1995;46:951-5.*
6. *Sugiishi M, Takatsu F. Cigarette smoking is a major risk factor for coronary spasm. Circulation 1993;87:76.*
7. *Pittilo RM, Mackie IJ, Rowles PM, et al. Effects of cigarette smoking on the ultrastructure of rat thoracic aorta and its ability to produce prostacyclin. Thromb Haemost 1982;48:173.*
8. *Fitz GA, Oates JA, Nowak J. Cigarette smoking and hemostatic function. Am Heart J 1988;115:267.*
9. *DeMaiso SJ Jr, Kinsella SH, Silverman ME. Clinical course long-term prognosis of spontaneous coronary artery dissection. Am J Cardiol 1989;64:471-4.*