Coronary rupture to the right ventricle during PTCA for myocardial bridge

"Miyokardiyal Bridge" tedavisinde uygulanan PTKA sırasında koroner arterin sağ ventriküle rüptürü

Dear Editor,

A part of epicardial coronary arteries traveling through myocardial tissue other than its normal subepicardial pathway is known as myocardial bridge (MB). Incidence of MB in pathologic series is as high as 15-85%; however it's incidence only 0.51-2.5% in angiographic series (1). Although MB is usually accepted as an innocent angiographic evidence, it has been shown to cause myocardial ischemia, myocardial infarction, conduction disturbances, cardiac arrhythmias, and sudden death (2). How should we deal with the patients having myocardial bridge? First of all, we should investigate whether the bridge cause ischemia or not. In most patients, MB doesn't cause any symptoms or ischemia and it has is any negative effect on survival. Exercise test, SPECT and magnetic resonance technique could be used for ischemia detection. In addition, an impaired coronary flow reserve distal to the bridge is observed by intracoronary Doppler studies. Also, fractional flow reserve (FFR) can detect pressure decrease at the bridge distally. Although systolic compression of the myocardial bridge consists of systolic phase, it can even extend to the diastolic phase can cause ischemia. Especially, tachycardia may worsen ischemia because of the decrease of diastolic filling time. According to another hypothesis, systolic compression leads to intimal trauma and endothelial dysfunction, which affect the platelet activity and cause spasm resulting in an acute coronary syndrome (3). Appropriate treatment for ischemic patients is beta-blockers and calcium antagonists. These drugs show beneficial effects with their negative inotropic and chronotropic activity. Stent implantation, minimally invasive coronary artery by-pass grafting (CABG) and surgical myotomy are alternative approaches in nonresponsive patients to the medical treatment (4-5). An interesting case report (6), published in the recent issue of the Anadolu Kardiyoloji Dergisi, concerning percutaneous transluminal coronary intervention and stent implantation to the patient with a myocardial bridge took my attention. In this case, a rupture of left anterior descending artery to the right ventricle was observed and a graft stent has been implanted urgently. Unfortunately, the patient underwent CABG further because of the thrombotic occlusion of the stented segment. The authors concluded that supraarterial myotomy should be the first treatment of choice in case of a rupture due to intimal thinness of myocardial bridge segment. In my point of view, MB patients can be treated by percutaneous interventions and the safer approach is the direct stenting without balloon dilatation. Coronary dissection and rupture risk are higher during the balloon dilatation in patients who have atherosclerotic plaques together with a myocardial bridge. Dynamic compression of the artery and the stretching effect at the border of the bridge may facilitate coronary dissection and rupture. It is possible to treat MB with a high radial force stent, which is longer than bridges segment. Therefore, surgical treatment can be an alternative option to the patients who cannot be stented. Unfortunately, restenosis is still a disadvantage in these patients. But, there is still a hope for lower restenosis rates with drug-eluting stents. Actually, no study investigated the results of drug eluting stents (DES) in MB patients. Better results with DES may protect MB patients from the frightening face of surgical operation.

In conclusion, reasonable approach should be the medical treatment of ischemic MB patients because of the disadvantages of invasive therapies. Stent implantation is useful in symptomatic patients in the hands of experienced invasive cardiologist. In my opinion, surgical attempt may be the last approach to ameliorate the cardiologic results.

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Author`s reply

Dear Editor

We would like to emphasize once more that medical treatment should be the first choice in presence of myocardial bridge (MB). If ischemia persists despite medical treatment the second choice should be invasive approach. Although successful percutaneous interventions are reported, since this segment of the coronary artery is a very dynamic segment and its vessel wall in is much thinner than usual there are also reports of complications.

The author's recommendation of direct stenting without previous balloon dilatation looks logical, but still the risk of rupture is the same when the stent is implanted via in-stent balloon dilatation.

We believe in cases of MB when invasive intervention is the only choice of treatment, intravascular ultrasonography (IVUS) should be performed to detect any accompanying atherosclerotic disease. And, if there is any plaque formation, surgical treatment should be the first choice.

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KADIN CEHENNEMİ

Bir hanım vefat etmiş, öteki dünyada sorgu meleğinin karşısına çıkarmışlar. Sorgu meleği, hanımefendinin adını, soyadını sormuş, aldığı yanıttan sonra da büyük, kara kaplı bir deftere bakmış.

- O, hanımefendi siz hayatta iken çok sevap işlemiş, çok iyilikler yapmışsınız. Sizin yeriniz doğru hanımlar cenneti, demiş ve eklemiş, gelin sizi oraya götüreyim.

Kısa bir yoldan sonra büyük bir kapının önüne gelmişler, kapı açılmış ve hanımefendi gördüklerine inanamamış. İçinde incirlerin doluştuğu bir dere yanında muhteşem bir bahçe, ağaçlarda türlü türlü meyveler, kadın dayanamamış meyveleri koparıp ağzına atmış o zamana kadar hiç bu kadar leziz şeyler yememiş. Uzaktan, nereden geldiği belli olmayan harika bir müzik kulağı okşuyor. Sorgu meleği saray yavrusu konakları göstererek:

- Bunlardan bir tanesi sizin, artık burada kalacaksınız, demiş.

Kadıncağız mutlu, "iyi ki hep iyilik yaptım buradayım, kötülük yapıp kadınlar cehennemine gitseydim şimdi alevler içinde yanıyor olacaktım, demiş.

"Kadınlar cehenneminde ateş yoktur" diye yanıtlamış sorgu meleği.

"Yani akrepler, çiyanlar mı var?" diye sormuş kadın.

"Yoo" diye yanıtlamış melek. "Onlar dünyada kaldı, kadınlar cehenneminde hiçbiri yoktur."

"Öyle ise her taraf buzlar içinde, oradakiler soğuktan donuyorlardır" diye merakla sormuş kadın.

"Hiç de soğuk yoktur" yanıtını alınca, "Ne olur, çok merak ettim acaba kadınlar cehennemini görebilir miyim" diye sormuş kadın. "Bundan kolay bir şey yok, hadi gidelim" yanıtını almış.

Beraberce cennetten çıkıp bir miktar yol almışlar ve büyük bir kapının önünde durmuşlar. Kapı açılmış ve bizim hanımefendi şaşırıp kalmış. Dere aynı dere, ağaçlar aynı ağaç, meyvelerin tadı farklı mı, diye bir iki tanesini ağzına atmış, aynı tat, müzik aynı, konaklar aynı. Dayanamamış sormuş. "nasıl olur yani, cennetle cehennem her ikisi de tıpa tıp birbirinin aynı, bunların farkı yok mu?"

Melek gülümsemiş, "var tabii" demiş. "Kadınlar cehenneminde alış veriş merkezleri yoktur, buradaki hanımlar alış veriş etmekten mahrumdurlar."

Prof. Dr. İstemi Nalbantil