

# Iatrogenic Right Coronary Artery Dissection

## Yatrojenik Sağ Koroner Arter Diseksiyonu

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### ABSTRACT

*Iatrogenic coronary artery dissection is a rare condition. But, it is potentially catastrophic complication. We present a case of iatrogenic right coronary artery dissection resulting from vigorous hand-injection of contrast medium. The patient was treated successfully by stenting and was obtain optimal coronary blood flow.*

**Key Words:** Dissection; angioplasty, transluminal, percutaneous coronary; coronary artery disease.

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### ÖZET

*Yatrojenik koroner arter diseksiyonu nadir fakat yıkıcı bir komplikasyondur. Kontrast maddenin güçlü enjeksiyonu sonucu oluşan yatrojenik sağ koroner arter diseksiyonu olgusu sunuyoruz. Hasta stentleme işlemi ile başarılı şekilde tedavi edildi ve optimal kan akımı sağlandı.*

**Anahtar Kelimeler:** Diseksiyon; anjiyoplasti, translüminal, perkütan koroner; koroner arter hastalığı.

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A 60-year-old man referred to our department for coronary angiography because of recent-onset effort angina investigated by SPECT myocardial perfusion imaging revealing an exercise induced significant inferio-lateral perfusion defect. Cardiac catheterization revealed a 80% left circumflex artery (LCX) stenosis and a right coronary artery (RCA) distal 85% stenosis (Figure 1). Both lesions were treated with angioplasty and stenting devoid of any complication. However, on the last attempt to picture the RCA stent from the left anterior oblique view, the vessel dissected proximal to the stent up to the ostium in consequence of vigorous hand-injection of contrast medium (Figure 2). Since the guide wire was not removed, RCA was stented easily distal to proximal manner with three stents (Figure 3). Hopefully, the patient was hemodynamically stable and remained asymptomatic.



Figure 1. Cardiac catheterization revealed a RCA distal 85% stenosis.

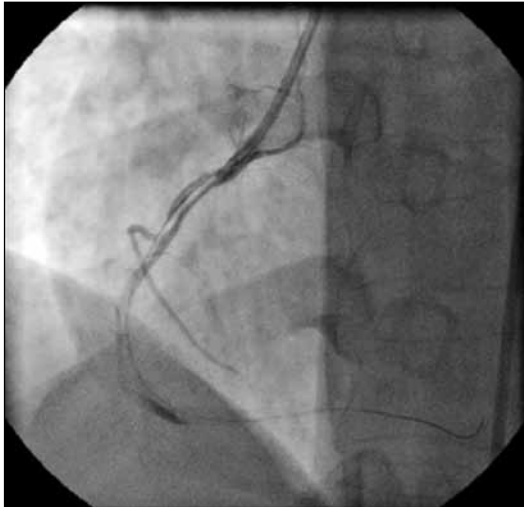


Figure 2. Coronary dissection after vigorous hand-injection of contrast medium in RCA.

## DISCUSSION

Coronary artery dissection is defined as the separation of the media by hemorrhage with or without an associated intimal tear<sup>(1)</sup>. Intimal tears or dissections following coronary artery interventions have been arbitrarily divided into types A to F<sup>(2)</sup>. Type A dissections represent minor radiolucent areas within the coronary lumen during contrast injection with little or no persistence of contrast after the dye has cleared. Type B dissections are parallel tracts or a double lumen separated by a radiolucent area during contrast injection, with minimal or no persistence after dye



Figure 3. Successful stenting of coronary dissection.

clearance. Type C dissections appear as contrast outside the coronary lumen (extraluminal cap) with persistence of contrast after dye has cleared from the lumen. Type D dissections represent spiral (barber shop pole) luminal filling defects, frequently with excessive contrast staining of the dissected false lumen. Type E dissections appear as new, persistent filling defects within the coronary lumen. Type F dissections represent those that lead to total occlusion of the coronary lumen without distal antegrade flow. Angiographic predictors of coronary artery dissections include calcified lesions, eccentric lesions, long lesions, complex lesion morphology and vessel tortuosity. Deep seating during engagement of the coronary ostium, vigorous attempts at guidewire passage and a balloon to artery ratio  $> 1.2$  also predispose to dissection of the coronary artery<sup>(3)</sup>. Acute vessel closure is the most feared complication due to coronary artery dissection but retrograde extension of the dissection back to involve the aorta can occur. Assuming a guidewire may be passed into or resides concurrently within the true lumen of a dissected coronary artery, dissections in the current era can usually be managed by deployment of stents.

Coronary artery dissection due to vigorous hand-injection of contrast medium is an uncommon complication of percutaneous coronary intervention and cardiac catheterization, but when it occurs, the outcomes can be devastating. Contrast should not be injected if the pressure is damped, as this may be due to the catheter resting against a plaque in the artery<sup>(4)</sup>. Awareness of the potential risk may aid in rapid recognition of complications, and therefore potentially improve the speed with which definitive the-

rapy may be instituted. Given the propensity of dissections to propagate distal with antegrade coronary flow, the operator should seek to contain and cover the distal extent of the dissection as soon as possible with a stent to prevent further extension.

## REFERENCES

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