

## Safe entry site for coronary angiography: Snuff box

### Koroner anjiyografi için güvenli girişim yeri: Enfiye çukuru

Emrah Bayam, M.D.,<sup>1</sup> Muzaffer Kahyaoğlu, M.D.,<sup>1</sup> Ahmet Güner, M.D.,<sup>1</sup>  
Regayip Zehir, M.D.,<sup>1</sup> Can Yücel Karabay, M.D.<sup>2</sup>

<sup>1</sup>Department of Cardiology, Kartal Koşuyolu Yüksek İhtisas Training and Research Hospital, İstanbul, Turkey

<sup>2</sup>Department of Cardiology, Dr. Siyami Ersek Thoracic and Cardiovascular Surgery Training and Research Hospital, İstanbul, Turkey

**Summary**– Coronary angiography and percutaneous coronary artery intervention are important tools for the diagnosis and treatment of coronary artery disease. Nevertheless, despite both technical and pharmacological advances, bleeding and vascular complications remain problematic. With recent trials supporting the safety and decreased bleeding risk associated with the radial approach, radial access has become more popular, and conferences providing instruction on this technique are often standing room only. Herein, a case in which coronary angiography was performed by punching through the radial artery snuff box (fovea radialis) is described. Radial angiography from the snuff box allows for easier palpation and punching, less risk of neuropathy and bleeding, and less compression after the procedure.

Coronary angiography and percutaneous coronary artery intervention are important tools for the diagnosis and treatment of coronary artery disease. Nevertheless, despite both technical and pharmacological advances, bleeding and vascular complications remain problematic. Coronary angiography and percutaneous coronary artery intervention can be performed via transradial, transfemoral, or transbrachial access. With recent trials supporting the safety and decreased bleeding risk associated with the radial approach, radial access has become more popular. The only contraindication for this approach is the rare, inadequate ulnar artery collateral circulation to the hand, clinically recognized by an abnormal Allen test. Presently described is a case in which coronary angiography was performed by puncture through the radial artery snuff box (fovea radialis).

**Özet**– Koroner anjiyografi ve perkütan koroner girişimler, koroner arter hastalığı tanısında ve tedavisinde önemli rol oynamaktadır. Teknik ve farmakolojik ilerlemelere rağmen kanama ve damar komplikasyonları hala problem oluşturmaktadır. Radyal yaklaşımla ilgili güvenilirlik ve kanama riskinin azaldığını bildiren son çalışmalarla birlikte, radyal yaklaşım daha popüler hale geldi ve bu tekniğin öğrenilmesinin artmasıyla birlikte popülerliğini koruyacaktır. Bu yazıda, radyal arter enfiye kutusundan (fovea radialis) girilerek yapılan koroner anjiyografi olgusu sunuldu. Enfiye kutusundan yapılan radyal anjiyografi, daha kolay palpasyon ve girişim, daha az nöropati ve kanama ve işlem sonrası daha az bası gereksinimi gibi kolaylıklar sunmaktadır.

#### CASE REPORT

A 55-year-old man was admitted for coronary angiography with a diagnosis of stable angina pectoris. The patient had diabetes mellitus and hypertension. He was obese and could not sleep on his back for a long time due to herniation of a disc. Therefore, angiography was planned from the radial artery rather than the femoral artery. Radial angiography was performed using a puncture through the snuff box region (Figs. 1a-c), as it would be safer and more comfortable for the patient. The puncture was made in the dorsal surface of the forearm while the thumb was flexed. After the procedure, the radial artery was compressed in the proximal region and the sheath was pulled. Hemostasis following coronary angiography was easy using simple compression of the su-

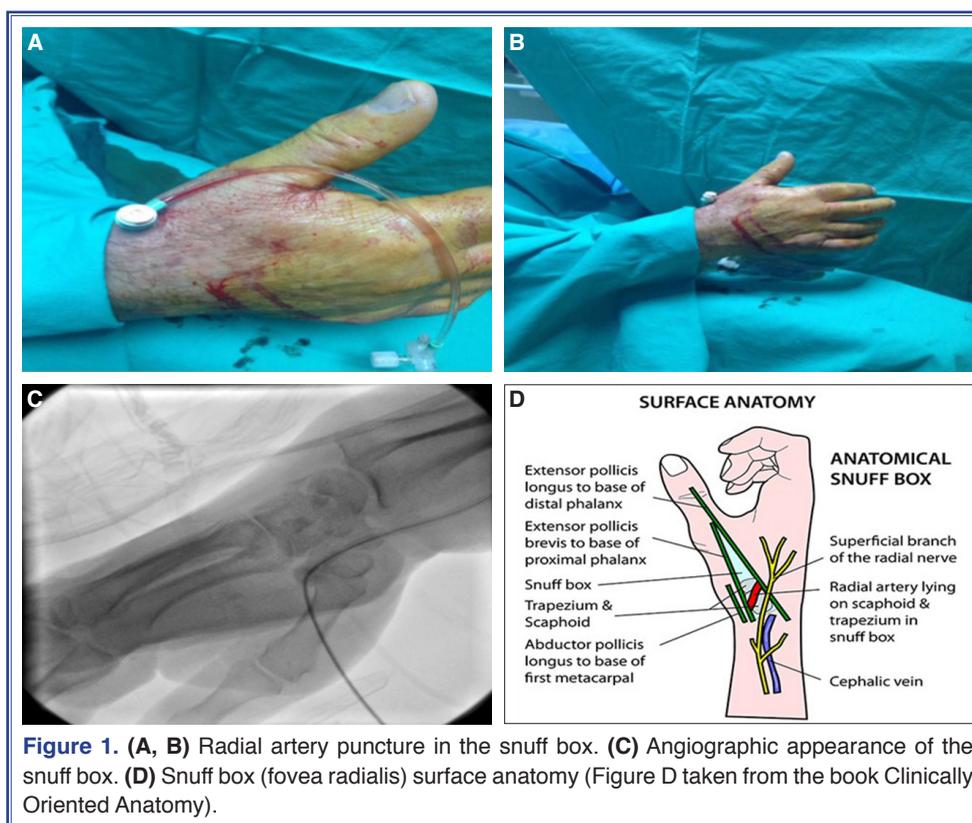
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Correspondence: Dr. Muzaffer Kahyaoğlu. Kartal Koşuyolu Yüksek İhtisas Eğitim ve Araştırma Hastanesi, Kardiyoloji Kliniği, İstanbul, Turkey.

Tel: +90 216 - 500 15 00 e-mail: mkahyaoglu09@hotmail.com

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perforally located puncture point in the anatomical snuff box area.

The snuff box can be described as follows (Fig. 1d): The medial border (ulnar side) of the snuff box is the tendon of the extensor pollicis longus. The lateral border (radial side) is a pair of parallel and intimate tendons, the extensor pollicis brevis and the abductor pollicis longus. The proximal border is formed by the styloid process of the radius. Underneath the tendons that form the borders of the anatomical snuff box lies the radial artery, which passes through the anatomical snuff box on its course from the normal radial pulse detecting area, to the proximal space in between the first and second metacarpals to contribute to the superficial and deep palmar arches.<sup>[1]</sup>

## DISCUSSION

Coronary angiography using a radial approach has recently become popular. Recent studies have demonstrated a trend toward improvement in outcomes of death and myocardial infarction,<sup>[2-4]</sup> whereas previously, the data only supported decreased bleeding, early ambulation, and improved patient satisfaction.<sup>[5,6]</sup> This information will increase the number of

physicians choosing a radial approach as their default. The snuff box can also be used as an intervention site when performing coronary angiography with a radial approach.<sup>[6,7]</sup> Radial angiography from the snuff box allows for easier palpation and puncture, less risk of neuropathy and bleeding, and less compression after the procedure. In addition, this technique reduces the chances of radial artery occlusion at the site of the distal forearm.<sup>[8]</sup> As a result, it may be preferable to perform radial angiography from the snuff box as it appears to be safer, easier, and has less risk of complications.

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