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ЕА

ПУБЛИКАЦИИ НА Д-Р ДИАНА СМИЛКОВА, ЦИТИРАНИ В БЪЛГАРСКИ ИЗТОЧНИЦИ ОТ ЦЕНТРАЛНА МЕДИЦИНСКА БИБЛИОТЕКА

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Artículo de opinión
COLECCIÓN CONSOLIDACION

Cateterismo cardiaco por vía transulnar. ¿Una segunda opción?

Transulnar via cardiac catheterization. A second option?

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La coronariografía y el intervencionismo coronario percutáneo (ICP) mediante acceso transradial han experimentado un aumento significativo en los laboratorios de todo el mundo dadas sus claras ventajas sobre la vía transfemoral.[1] Con el ánimo de mantener la eficacia y seguridad evidenciadas en el uso de la muñeca como región de acceso, se intenta utilizar la vía transulnar como alternativa a la radial.

Las arterias ulnar y radial contribuyen con el flujo de sangre al arco palmar. Algunos autores sugieren que la ulnar tiene menor diámetro que la radial,[2] otros informan que es similar e incluso mayor,[3] aunque pudiera existir una relación inversa entre el diámetro radial y ulnar. Su recorrido no se centra encima del hueso subyacente, generalmente es más medial, rodeada de tejido más laxo lo que puede dificultar la hemostasia. La técnica de acceso transulnar (ATU) es similar a la transradial (ATR), se debe hiperextender la muñeca y el sitio de punción debe estar entre 0,5 y 3 cm proximal al pliegue flexor de la piel y al hueso pisiforme, en el eje donde se percibe más fuerte el pulso cubital. El abbocath se inserta en un ángulo de 45°-60° a lo largo del eje del vaso y con ligera inclinación de lateral a medial para evitar lesión en el nervio cubital.

En los estudios realizados, este acceso ha demostrado ser una alternativa viable al ATR en el cateterismo cardiaco.

Con el objetivo de evaluar la factibilidad del ATU en el ICP y su seguridad a corto y largo plazo, se intentó el ATU en 81 pacientes, en un estudio realizado por un grupo de investigadores del Cardiac Center of Creighton University, Omaha, Nebraska.[4] La mayor razón para su uso fue el pobre pulso radial, cirugía anterior de la muñeca que dificultaba el acceso, antecedentes de espasmo severo de la arteria radial o alguna variante anatómica extrema de esta y la enfermedad arterial periférica severa. El 6,1% presentaba infarto miocardio con elevación del segmento ST, se realizó ICP en el 50,6% (65 lesiones: 12,1% en bypass, 9,2% en tronco coronario izquierdo no protegido) y en cuanto a las características de los dispositivos: el 50,6% introductores 6 Fr y el 6,1% con 7 Fr. Este acceso fue infructuoso en el 6,2% de los pacientes por fallo en su obtención. El éxito diagnóstico se logró en el 100%; de los 41 pacientes candidatos a ICP, solo 1 caso requirió crossover a femoral (en este caso hubo poco apoyo para la intervención de un puente de safena a la obtusa marginal) y en otro no se logró cruzar una oclusión total crónica en circunfleja, mientras otro presentó fenómeno de no reflujo después de una intervención de puente venoso. Con esto se logró una proporción de éxito del proceder de 92,6%. Durante la estancia hospitalaria no ocurrió sangrado mayor o complicaciones vasculares; al año y con un seguimiento en el 71,6% se encontró 1 caso con enfermedad cerebrovascular y 2 eventos cardiacos adversos mayores (MACE).[4]

En teoría el riesgo de hematoma local puede ser mayor en el ATU debido al curso más profundo de la arteria y la mayor dificultad para la hemostasia. Recientemente una larga serie de pacientes en Brasil, [5] reportó 410 ATU (71,8% diagnósticos y 98,5% derecho), con 6 casos de crossover. Las complicaciones relacionadas con la vía de acceso fueron

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REVIEW ARTICLE

Ulnar artery: The Ulysses ultimate resort for coronary procedures

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KEYWORDS
Ulnar artery;
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Coronary catheterization;
Transfemoral approach

Abstract Despite the increasing worldwide adoption of the transradial access site, the ulnar artery (UA) only very infrequently serves as a primary option for coronary procedures. In contrast to the uncertainty surrounding previous reports regarding the feasibility and safety, recent data from larger registries and randomized trials provide more conclusive evidence that the transulnar route may be safely selected as an alternative arterial access approach. However, a default transulnar strategy appears time-consuming and is associated with higher crossover rates compared with the radial artery (RA). Once arterial access is obtained, the likelihood of a successful coronary procedure is high and similar between the two forearm arteries. The UA has similar flow-mediating vasodilating properties with and seems at least as vulnerable as the RA with regard to incident occlusion, with UA occlusion (UAO) rates being probably higher than previously anticipated. A learning curve effect may not be apparent for crossover rates among experienced radialists, but increasing experience is associated with reduction in the fluoroscopy time, contrast volume and frequency of large hematoma formation. The UA may represents an important alternative access site for coronary procedures, and experienced radial operators should obtain additional skills to perform the transulnar approach. Nevertheless, in view of this method's lower feasibility compared to the RA, an initial ulnar access strategy should be reserved for carefully selected patients to ensure satisfactory cannulation rates.

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PRIKAZI SLUČAJEVA
CASE REPORTS

Vojnomedicinska akademija, Beograd
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Prikaz slučaja
Case report
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KORONAROGRAFIJA IPSILATERALNIM ULNARNIM PRISTUPOM KOD BOLESNIKA SA RADIJALNOM ARTERIJOM MALOG DIJAMETRA

CORONARY ANGIOGRAPHY THROUGH IPSILATERAL ULNAR APPROACH IN A PATIENT WITH SMALL-DIAMETER RADIAL ARTERY

Zoran STAJIĆ i Zdravko MIJAILOVIĆ

Sažetak

Uvod. Koronarne procedure nije moguće izvesti započetim radijalnim pristupom kod oko 5–15% pacijenata zbog čestih anatomskih malformacija radijalne arterije i vazospazma. U ovim slučajevima ulnarni pristup može biti efikasan i bezbedan alternativni pristup iz ruke. **Prikaz slučaja.** Bolesnik star 60 godina, sa stabilnom anginom pektoris, hipertenzijom, dislipidemijom i pozitivnim ergometrijskim testom primljen je u našu kliniku radi koronarografije. Zbog bolova u kičmi i nemogućnosti dužeg ležanja bolesnika na leđima zbog problema sa kičmom, odlučili smo se za pristup iz ruke (standardni radijalni pristup) nakon učinjena oba modifikovana Alenova testa koji su bili pozitivni. Nakon insercije uvodnika u desnu radijalnu arteriju i nemogućnosti napredovanja žice-vodiča i katetera, urađena je angiografija desne ruke koja je pokazala da je desna radijalna arterija malog dijametra sa dominacijom desne ulnarne arterije. Nakon toga, uspešno je punktirana desna ulnarna arterija i koronarografija je urađena ulnarnim pristupom. Oba uvodnika su odmah nakon koronarografije simultano izvađena i hemostaza je uspostavljena kompresijom dvema Terumo trakama iznad obe punktirane arterije, bez komplikacija. Pulsevi obe arterije su tokom narednih 24 h regularno kontrolisani i bili su normalni. Takođe, 24 h nakon procedure urađen je i kontrolni ultrazvučni pregled koji je potvrdio postojanje normalnih protoka u obe punktirane arterije. Tokom perioda praćenja od mesec dana nakon koronarografije, pacijent je bio bez tegoba i nisu registrovane ishemijske komplikacije šake. **Zaključak.** Naš slučaj pokazuje mogućnost izvođenja koronarografije ipsilateralnim ulnarnim pristupom kao bezbednim i efikasnim alternativnim pristupom kod pacijenata sa pozitivnim Alenovim testom a u slučaju neuspeha inicijalnog pokušaja radijalnim pristupom, kada se želi izbeći femoralni pristup i održati pristup iz ruke.

Ključne reči: Koronarna angiografija; Ulnarna arterija; Radijalna arterija + abnormalnosti; Starost 45-64 godina; Muško; Ishod tretmana

Summary

Introduction. Coronary procedures cannot be completed in 5-15% of cases through initially used radial artery approach due to frequent radial artery anomalies and vasospasm. In these cases, the ulnar artery approach could be the safe and effective alternative wrist approach. **Case report.** A 60-year-old patient with stable angina pectoris, hypertension, dyslipidaemia and positive endurance test was admitted to our hospital for coronary angiography. Due to the backbone pains which also made prolonged lying in bed very uncomfortable and painful, we opted for the wrist approach (standard radial approach) after both modified Allen's tests had been performed, which gave the positive result. After sheath insertion into the right radial artery and unsuccessful advancement of the guidewire and the catheter, we performed the right forearm angiography, which revealed that the right radial artery had a small diameter and the right ulnar artery was the dominant one. Afterwards, the right ulnar artery was cannulated successfully and the coronary angiography was performed through this approach. Both sheaths were removed simultaneously immediately after the procedure and hemostasis was secured by the compression with two Terumo-bands over the puncture sites without any complications. The pulses of both arteries were checked regularly over the next 24 hours and they remained normal. A day after the procedure, the control Doppler-ultrasound check-up was performed and it confirmed the normal flow in both cannulated arteries. One-month follow-up was uneventful, and the patient did not experience any ischemic symptoms of the hand. **Conclusion.** This case is the proof that the ipsilateral ulnar approach can be a safe and effective alternative approach in patients with positive Allen's test after the failure of initial radial attempt in cases where femoral approach should be avoided or the wrist approach should be maintained.

Key words: Coronary Angiography; Ulnar Artery; Radial Artery + abnormalities; Middle Aged; Male; Treatment Outcome

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Clinical Research Article

Transulnar Approach: the Rationale from the Radialist's View

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Abstract:
Background: Radial access, besides providing greater comfort to the patient and reduction of hospital costs, promotes unequivocal reduction of vascular complications, with possible prognosis implication. A series of cases have shown that when its use is not suitable, ulnar access presents itself as a viable and effective alternative.
Objective: To evaluate the safety and effectiveness of ulnar approach in the performance of coronary procedures after failed attempt in obtaining radial access.
Methods and Results: From May 2007 to February 2009, 115 patients underwent 122 coronary procedures via ulnar access and were included in a prospective registry. The average age was 61.3 ± 11.1 years, 67 (58%) were female and 36 (31%) were diabetic. Procedure success was achieved in 116 (95%) cases. There were no cases of major bleeding, transfusions or vascular repair surgery among the complications. There were hematomas in 4.9% of the cases, though mostly superficial, light to moderate spasms in 4% and asymptomatic ulnar artery occlusion, with no evidence of ischemia in 1.6%.
Conclusions: The ulnar artery is a feasible and effective alternative approach to perform coronary procedures. When radial access is not available, it presents a similar safety profile with virtually no occurrence of hemorrhagic complications.

Key Words:
Ulnar approach, radial approach, coronary procedures, registry.

Introduction:

Evidences showing a narrow relationship between the occurrence of bleeding and the increased risk of major adverse events, including death, myocardial infarction (MI) and stroke are growing[1]. Notably, vascular complications related to the puncture site are among the principal causes of bleeding in patients submitted to invasive coronary procedures, especially in the validity of acute coronary syndromes, where aggressive antithrombotic therapy is frequently used[2].

Recent meta-analysis demonstrated that the use of the radial access promoted a significant reduction of 73% in the major bleeding rate, when compared to the femoral access and a trend towards a reduction of 30% in the occurrence of major cardiovascular events, representing an important intervention target in the prevention of this undesirable complication[3].

However, there is a failure rate of approximately 5% to 15% with radial access, mainly due to anomalies in the Allen test, significant anatomical variations of the radial artery, such as small-vessel caliber, tortuosities, stenosis, aberrant origin, hypoplasia, or vessel spasm4. Aiming to provide the same benefits of radial access, and faced with the impossibility of its use, ulnar access presents itself as an attractive alternative approach5.

The purpose of this study was to evaluate the safety and effectiveness of the ulnar access in the performance of diagnostic and therapeutic coronary

Methods:

Patients who underwent coronary procedures via ulnar access, due to failure in obtaining radial access, or in the presence of a more superficial and more prominent ulnar pulse, were included in a prospective registry of safety and effectiveness. The modified Allen test was not performed in routine. Through hyperextension of the wrist and infiltration of 1 to 2 ml of xylocaine at 2%, the ulnar artery was punctured at 1 to 3 cm proximal to the pisiform bone, using a 20 G JelcoÔ needle-mounted intravenous catheter (Johnson & Johnson) and the Seldinger technique. After the puncture, a 0.021-inch guide-wire (Terumo Corporation, Tokyo, Japan) was introduced, followed by a small cutaneous incision with a No.11 surgical blade and the insertion of a 5Fr or 6Fr short introducer (10 cm) (Terumo Corporation, Tokyo, Japan). A solution containing 5000 IU of heparin sulfate and 10 mg of isosorbide mononitrate was administered through the extension of the introducer. After finishing the procedure, the introducer was immediately removed and hemostasis was achieved with compressive dressing. Clinical examination of the puncture site and evaluation of the ulnar pulse were performed at the moment of hospital discharge, three hours after completion of coronary angiographies and the morning following percutaneous coronary intervention (PCI).

Conclusion:

In conclusion the ulnar approach, although it represents a small portion of the procedures performed in centers where the radial approach is routine, presents itself as a feasible, safe and effective alternative to perform diagnostic and therapeutic coronary procedures. In face of the evidence that sustains the negative prognostic impact of major bleeding in the survival of the patients, it would represent a promising substitute to the radial approach, when its use is not suitable, without the need of conversion to the femoral approach.

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