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Vascular outcomes of early deflation of radial artery band following coronary angiography: A controlled clinical trial

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The present study aimed to investigate the effect of early deflation of the transradial (TR) band on the vascular outcomes of patients who have undergone coronary angiography through transradial access (TRA).

The present controlled clinical trial included all patients who had undergone elective coronary angiography through TRA. The participants (n=70) met the inclusion criteria and were selected using convenient sampling. Then, they were randomly assigned to the intervention and control groups, using block randomization. Data collection tools included a questionnaire on demographic and related clinical data, including the history of diabetes, hypertension, hypercholesterolemia, heart failure and vascular disease, and the checklist of post-angiographic complications, including duration of the procedure, systolic and diastolic blood pressures measured before and after the procedure, and assessments of radial artery occlusion (RAO), hematoma and pain.

The intervention group had their TR band on the artery for 1.5 hours after the procedure. Then, the cuff of the band was deflated at a speed of 5 cc every 15 minutes, using a syringe. However, the TR band was kept in place for 2 hours in the control group, followed by the deflation with the same speed. The pressure application time was recorded in both groups from the removal of sheaths until complete hemostasis.

The patients with early deflation of the TR band experienced less pain compared to those with typical deflation (P=0.003). However, the variables of hematoma development (P=0.062) and RAO (P=0.371) were not significantly different between the patients with typical and early deflation of the TR band.

The present study concluded that the patients with early deflation of the TR band experienced less pain compared to those with typical deflation. Therefore, deflating the TR band after cardiac angiography at 1,5 hours has similar efficacy and safety compare to 2 hours and associated with less reported pain score.

Introduction

In the past decades, cardiovascular diseases (CVD) have been increasing considerably in prevalence, so that they are one of the leading causes of mortality in most countries[1]. There are various invasive and non-invasive diagnostics for coronary artery disease (CAD); however, cardiac catheterization, commonly referred to as coronary angiography, is still the gold standard for investigating CADs. According to evidence, more than 2 million cases of diagnostic or interventional coronary catheterizations are performed annually in the United States[2], while about 16,000-18,000 cases of coronary angiography are performed in Iran every year[3].

Cardiac catheterization one of the best and most definitive diagnostic modalities for CADs[4]. The procedure can be performed using transradial access (TRA) or transfemoral access (TFA). Despite the relatively large diameter of the femoral artery, cardiac catheterization through TFA is associated with vascular complications in more than 5% of the cases and increased mortality[5]. In addition to these potential risks, it causes several movement limitations for the patient.

Nowadays, the preferred method for coronary angiography is TRA and compared to TFA, TRA has been associated with more convenience, lower costs, fewer vascular complications and bleeding risks, and lower mortality[6]. According to estimates, the forearm technique is currently used in 22% of all coronary surgeries per-

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Declaration of Competing Interest

The authors declare that they have no competing interests.

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