Efficacy and safety of carotid artery stenting via right radial approach

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Learning Objectives

To understand the risks and benefits of performing carotid artery stenting procedure via transradial approach.

Introduction

Carotid artery stenting (CAS) using the femoral approach can be problematic due to access site complications, PVD or anatomical variations of the aortic arch. The purpose of the study is to describe our experience of CAS via the right radial approach (RRA).

Clinical data	
Age (Mean±SD; years)	58 ± 7
Male	13/15 (87%)
≥3 major risk factors for atherosclerosis	13/15 (87%)
Ischemic heart disease	8/15 (53%)
CABG	4/15 (27%)
Serum Creatinine > 1.5 mg/dl	5/15 (33%)
Asymptomatic	9/15 (60%)
Angiographic data	
Carotid artery stenosis≥70%	15/15 (100%)
RICA	11/15 (73%)
LICA	4/15 (27%)
Lesion length (Mean±SD; mm)	15 ± 4
Type A lesion	9/15 (60%)
Calcification	8/15 (53%)
Results	
Technically successful procedure	13/15 (87%)
RICA	10/11 (91%)
LICA	3/4 (75%)
Procedural time (Mean±SD; minutes)	35 ± 7
Neurological complications	0/15 (0%)
Access site complications	0/15 (0%)

CABG-Coronary artery bypass grafting; RICA-Right internal carotid artery; LICA-Left internal carotid artery

Methods

Clinical and radiographical records of all patients treated with CAS via RRA were retrospectively reviewed. The target common carotid artery (CCA) was initially cannulated by using 5F either Judkins right, Judkins left, IMA or Simmons-1 diagnostic catheters. These catheters were advanced towards peripheral branches of the external carotid artery (ECA) system using Terumo 0.035" wire. Through the diagnostic catheters a 0.035 Extra-stiff exchange wire was navigated to the ECA. Over this wire a 6F shuttle sheath was advanced to the distal CCA. Thereafter the procedure was completed by standard technique. All sheaths were removed immediately post procedure.

Results

Between 01/2012 and 01/2014, 46 CAS procedures were perform in our institute. 15/46 (33%) were undertaken via RRA. Mean age 58±7, 13 male underwent CAS. All had CA stenosis > 70%, 9/15(60%) were asymptomatic. Eleven pts had right and 4 had left internal CA stenosis (3 Bovine and 1 normal aortic arch). CAS was successfully completed in 13/15 (87 %) pts including 10/15 with the right and 3/4 with the left CA stenosis. The single cause of technical failure was inadequate catheter support at the origin of the common CA. Mean procedure time was 35±7 minutes. No port of access neither neurological complications were recorded. Mean hospital stay was 1±2 days due to symptomatic bradycardia.

Conclusions

CAS using the RRA seems to be safe and technically feasible. This approach may be

LICA stenting via RRA