Co-existence of carotid artery stenosis in patients with femoral artery stenosis :Is there a correlation between the atherosclerotic changes of femoral and carotid arteries?

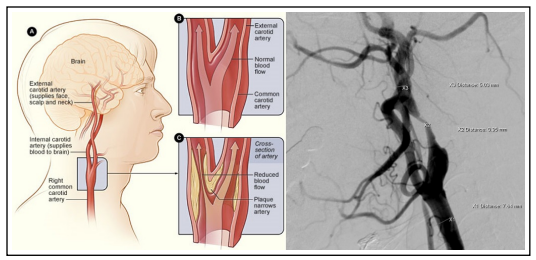
Dong Hoon Lee; Jae Hoon Sung MD; Jae Taek Hong MD; Il Sup Kim; Chul Bum Cho MD; Sang Won Lee MD

Cerebrovascular Center, Department of Neurosurgery, St. Vincent's Hospital, The Catholic University of Korea

CNS 2016 ANNUAL MEETING San Diego CALIFORNIA SEPTEMBER 24-28, 2016

Introduction

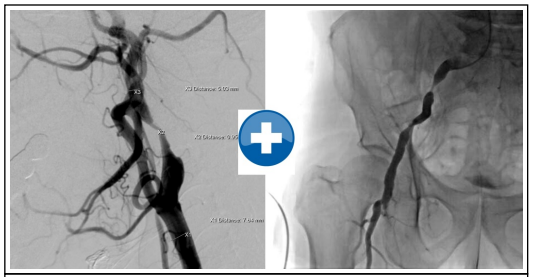
The study on the correlation between atherosclerotic changes of femoral and coronary arteries is well known. However, the correlation between atherosclerotic changes of femoral and carotid arteries is relatively unknown. The purpose of this study was to understand the correlation between atherosclerotic changes of femoral and carotid arteries.

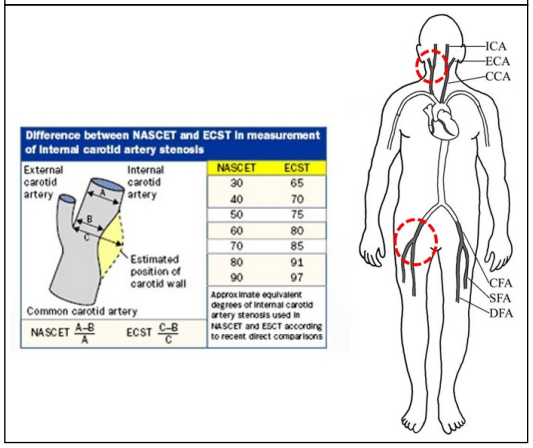


Methods

One-hundred nine patients were diagnosed with proximal internal carotid artery (ICA) stenosis using digital subtraction angiography (DSA) between August 2010 and December 2014. There were 22 patients which showed co-existence of atherosclerotic changes in femoral and carotid arteries. The following data were collected: patient's age and gender along with history of diabetes mellitus, hypertension, smoking, obesity, dyslipidemia, North American Symptomatic Carotid Endarterectomy Trial (NASCET), and femoral artery stenosis (FS). Obesity was defined as body mass index (BMI) values of over 25.

Dyslipidemia was defined as total cholesterol score over 200 or triglyceride score over 150mg/dL. Carotid artery stenosis (CS) was defined as the percentage of NASCET score over 50%. FS was defined as stenotic lesion over 40%.

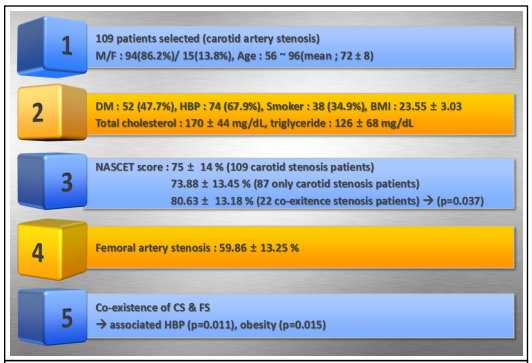


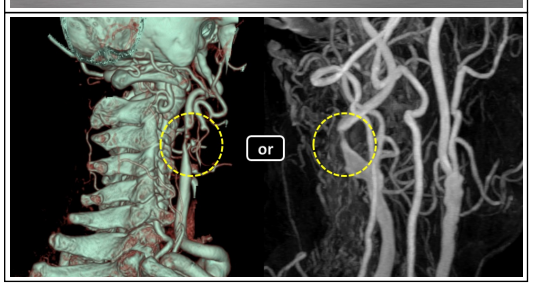


Results

The mean age of the patients was 72 ± 8 years. Ninety four (86.2%) patients were male and 15 (13.8%) were female. Thirty eight patients (34.9%) were smokers. 52 (47.7%) had diabetes mellitus and 74 (67.9%) had hypertension. The mean BMI of patients was 23.55 ± 3.03.

The mean total cholesterol score was 170 ± 44 mg/dL and triglyceride score was 126 ± 68 mg/dL. The mean NASCET of the 109 patients was 75 ± 14.02 %. Among the patients with CS, 22 (20.1%) of the patients were simultaneously diagnosed with FS. The mean NASCET score of 22 patients was 80.63 ± 13.18 % and FS was 59.86 ± 13.25 %. The mean NASCET score of the patients with CS alone was 73.88 ± 13.45 %. Co-existence of CS in patients with FS was indicated to be associated with hypertension (p=0.011) and obesity (p=0.015). In addition, it was observed that severity of CS has significant correlations with FS (p=0.037).





Conclusions

We concluded that there was a significant correlation between patients with FS and the severity of CS. Furthermore co-existence of CS in patients with FS was closely related to hypertension and obesity.

Learning Objectives

By the conclusion of this session, there was a significant correlation between patients with femoral artery stenosis and the severity of carotid artery stenosis. Therefore we should check the femoral artery in the patient of carotid artery stenosis.