Iliofemoral Calcification Differences Between Male And Female Patients And Relationship To Arterial Area

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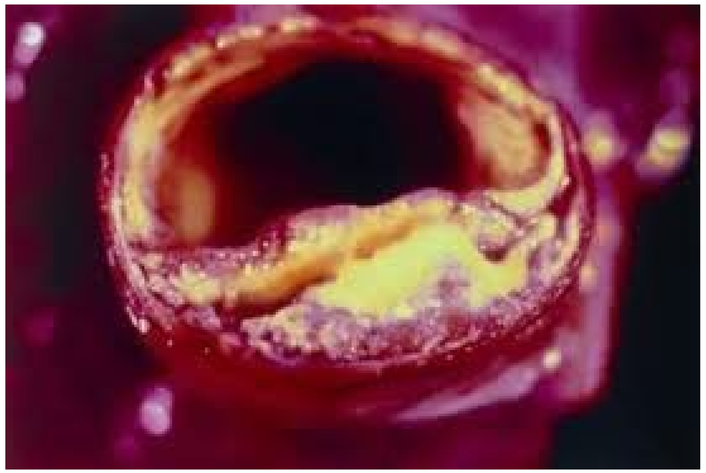


Atheroma inside aorta. BSIP VEM Science Photo Library. June 30, 1994. https://www.sciencephoto.com/media/258298/view/atheroma-inside-aorta

Introduction

- Vascular calcification is a risk factor for adverse cardiovascular events.[1]
- Males have higher rates of calcification in their coronary arteries, but there is a lack of data regarding rates of calcification in iliofemoral vessels.[2]

Objective

- To quantify differences in arterial size and calcification levels between sexes to eventually investigate this in PAD clinical presentation and treatment outcome between males and females, and help establish sex-specific therapeutic regimens.

Methods

- A retrospective review of 108 male and 108 female BMI-matched. Aneurysms excluded
- CT scans scored for abdominal aorta (AA), common iliac (CIA), and common femoral (CFA) outer diameters and divided into quartiles
- Calcification levels at the CIA and CFA were categorized as none, mild, moderate, or severe.
- Differences in calcification variables across quartiles were assessed using the Fisher's exact test based on Monte Carlo simulation.

Results

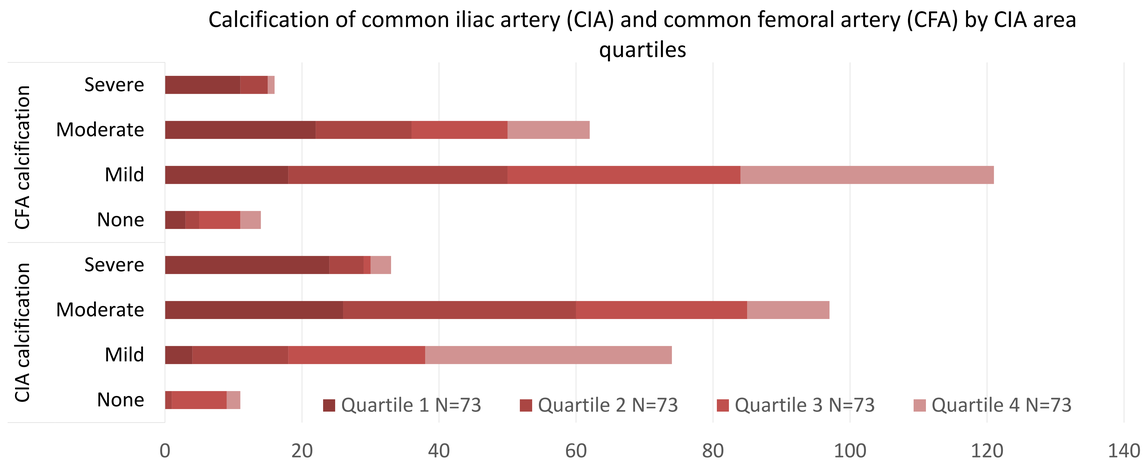
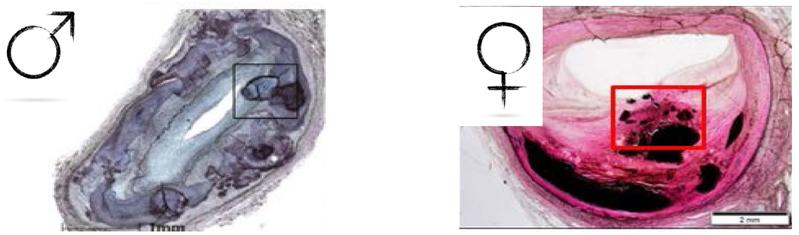


Table 1: Calcification of common iliac artery (CIA) and common femoral artery (CFA) by CIA area quartiles



Torii S, Mustapha AJ, Narula J, et al. (2019) Histopathologic Characterization of Peripheral Arteries in Subjects with Abundant Risk Factors. *JACC Cardiovasc Imaging* 12: 1501-1513.

As vessel area increased, calcification decreased, with more patients with severe or moderate calcification in the first two quartiles and more patients with no or mild calcification in the last two quartiles (Table 1)

Males had greater rates of CFA calcification than females (p=0.002), though **CIA calcification did not differ between the sexes** (p=0.425).

1. Sharma SK, Bolduan RW, Patel MR, Martinsen BJ, Azemi T, Giugliano G, Resar JR, Mehran R, Cohen DJ, Popma JJ, Waksman R. Impact of calcification on percutaneous coronary intervention: MACE-Trial 1-year results. Catheter Cardiovasc Interv. 2019 Aug 1;94(2):187-194. doi: 10.1002/ccd.28099. Epub 2019 Jan 25. PMID: 30681262.
2. Makaryus AN, Sison C, Kohansieh M, Makaryus JN. Implications of Gender Difference in Coronary Calcification as Assessed by CT Coronary Angiography. Clin Med Insights Cardiol. 2015 Apr 27;8(Suppl 4):51-5. doi: 10.4137/CMC.S18764. PMID: 25983560; PMCID: PMC4412426.