

## Popliteal Artery Aneurysm in Women

Hans Ravn <sup>a,b,\*</sup>, Karin Pansell-Fawcett <sup>a,c</sup>, Martin Björck <sup>a</sup>

<sup>a</sup> Department of Surgical Sciences, Vascular Surgery, Uppsala University, Sweden

<sup>b</sup> Department of Vascular Surgery, Kolding Hospital, University of Southern Denmark, Denmark

<sup>c</sup> Department of Surgery, County Hospital of Eksjö, Sweden

### WHAT THIS PAPER ADDS

The exact prevalence of PA is unknown, but has been estimated at 1% in elderly men, and is much less frequent in women. This study highlights the disease in women in a cohort study over 25 years. In most ways, the characteristics of PA are similar in men and women, except that symptomatic aneurysms are more often small and the disease is less often bilateral in women. Thus, women with PA can be treated similarly to men with the disease. These novel findings suggest that women should be considered for surgery even with a PA <20 mm.

**Objectives:** Ninety-five per cent of those operated on for popliteal artery aneurysm (PA) are men. Thus, PAs in women are difficult to investigate. The aim was to study the disease in women.

**Methods:** Women treated for PA in 1987–2012, prospectively registered in the Swedish vascular registry, Swedvasc, supplemented by case records, were compared with the larger male cohort. Survival was determined through cross linkage with the National Population Registry.

**Results:** 1509 patients (men and women), 1872 legs, were identified; of these 74 patients (4.9%) were women, 81 legs (4.3%). The median age was 70 years in women versus 69 in men. Twenty-nine centres operated on women (range 1–7 women/centre). There were no time trends in the proportion of women operated on ( $p=.5$ ). Bilateral PA occurred in 9.5% of women and 27.0% of men ( $p=.002$ ). For symptomatic aneurysms, there was a larger proportion of small aneurysms (<2 cm) among women than men (24% vs. 8%,  $p=.005$ ), there was no such difference in asymptomatic aneurysms. Distribution between asymptomatic and symptomatic PA was 31% versus 69%, similar to men. The prevalence of concomitant aneurysms in the aorto-iliac and femoral arteries, and the frequency of presenting symptoms were similar compared with men. Three PA were ruptured (3.7%). Thrombolysis was used in 23 of 45 legs treated for acute ischaemia (51%). Eight legs were treated with endovascular stent grafts (9.8%), compared with 7.9% in men ( $p=.5$ ). Seven legs were amputated (8.6%). Crude survival was similar to men.

**Conclusions:** PA is similar in women and men, but bilateral disease was less common in women and symptomatic PA were more often <2 cm in diameter. Women had the same survival as men, despite women generally having better life expectancy. Although the largest series ever published on women with PA, the sample size is small, making it prone to type II statistical error.

© 2017 European Society for Vascular Surgery. Published by Elsevier Ltd. All rights reserved.

Article history: Received 17 April 2017, Accepted 2 October 2017, Available online XXX

**Keywords:** Arterial aneurysm, Popliteal artery, Popliteal artery aneurysm, Sex, Women

### INTRODUCTION

Popliteal aneurysm (PA) accounts for 70% of all peripheral artery aneurysms.<sup>1,2</sup> Most previous publications have focused on different treatments of PA, with the largest series from registries.<sup>3–7</sup> PA is most commonly seen in men (approximately 95%) and is often associated with abdominal aortic aneurysm (AAA) and other peripheral aneurysms.<sup>8</sup> Elective PA repair aims to prevent limb loss. The

epidemiology, including sex differences in long-term survival, has been extensively studied in patients with abdominal aortic aneurysm,<sup>9</sup> but not in patients with PA.

It has not been possible to perform a large scale analysis of PA in women because of the limited number of patients. This contributes to potential limitations in statistical data. Vascunet is a collaboration of population based registries in ten countries, with eight having data on PA. The Vascunet group identified a great variability between countries in incidence of operations, indications for surgery, and choice of surgical technique. They also noted 64 female cases (4.4%) among 1471 operated patients.<sup>10</sup>

The exact prevalence of PA is unknown but has been estimated at 1% in elderly men.<sup>11</sup> Furthermore, cardiovascular

\* Corresponding author. Department of Vascular Surgery, Kolding Hospital, University of Southern Denmark, Denmark.

E-mail address: [Doc.hans.ravn@gmail.com](mailto:Doc.hans.ravn@gmail.com) (Hans Ravn).

1078-5884/© 2017 European Society for Vascular Surgery. Published by Elsevier Ltd. All rights reserved.

<https://doi.org/10.1016/j.ejvs.2017.10.001>

diseases, including AAA, are often underdiagnosed in women.<sup>12,13</sup> Thus, although uncommon, the aim of this study was to characterize PA in women.

## METHODS

Vascular procedures (both open and endovascular) have been prospectively registered in Swedvasc since 1987. The time period studied was from January 1987 until June 2012. From May 2008 a specific module to register PA procedures has been available. The specific registration of PA was motivated by the fact that this aneurysm disease most often manifests itself with lower limb ischaemia, rather than by rupture.

Sex is easily verified through the unique personal identity number (10 digits). Survival was determined based on the date of death from the population registry, which is 100% accurate, and crude survival rates were calculated for men and women.

Data on the prevalence of multi-aneurysmal disease already existed in 1092 of the 1509 patients (72%), a result of previous investigations in 1987–2002<sup>1,3,4</sup> and 2008–2012.<sup>7</sup> To study the frequency of multi-aneurysmal disease among the women operated on in 2003–2007, questionnaires were sent to the treating hospitals, asking about any diagnosis of additional aneurysmal disease and amputation until June 2012. The maximum diameter of the PAs was

possible to retrieve from the first database (1987–2002), as well as from women with PAA during the entire time period (1987–2012).

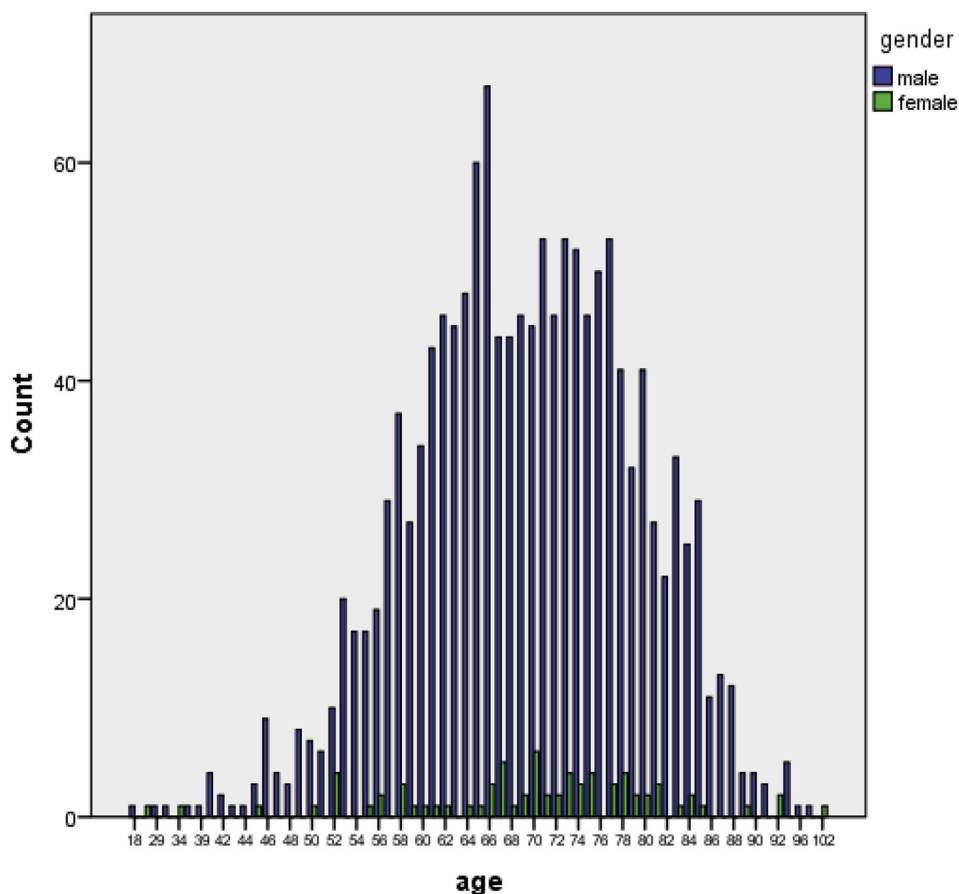
Swedvasc data on amputation after 1 year were not accessible in the period January 2003 to April 2008. To compare the risk of amputation, for women and men, data from January 1987 to December 2002 and data from April 2008 to June 2012 were merged. Both time periods had already been examined thoroughly for amputation. The total amputation rate for women was compared with the amputation rate for men in this merged database.

## Statistical analysis

Differences in proportions were evaluated using the chi-square test for nominal variables and Kendall's tau-b for ordinal variables. Student *t* test was used to evaluate differences in continuous variables. Survival was compared with Cox regression. All statistical analyses were performed with IBM SPSS Statistics, version 23.0.

## Ethical approval

The study was approved by the regional ethics committees in Uppsala. According to the administrative rules of the Swedvasc, each patient gives informed consent prior to registration. Patients who die during emergency treatment are registered without consent, to avoid selection bias.



**Figure 1.** Age distribution of 1509 patients with popliteal artery aneurysm, 1435 men and 74 women.

Download English Version:

<https://daneshyari.com/en/article/8659536>

Download Persian Version:

<https://daneshyari.com/article/8659536>

[Daneshyari.com](https://daneshyari.com)