



www.figo.org

Contents lists available at ScienceDirect

## International Journal of Gynecology and Obstetrics

journal homepage: www.elsevier.com/locate/ijgo



## REVIEW ARTICLE

## Prevalence, morbidity, and current medical management of uterine leiomyomas

Sara M. Drayer<sup>a</sup>, William H. Catherino<sup>b,\*</sup><sup>a</sup> School of Medicine, Uniformed Services University of the Health Sciences, Bethesda, MD, USA<sup>b</sup> Department of Obstetrics and Gynecology, Uniformed Services University of the Health Sciences, Bethesda, MD, USA

## ARTICLE INFO

## Article history:

Received 31 July 2014

Received in revised form 28 April 2015

Accepted 24 July 2015

## Keywords:

Leiomyoma

Outcomes

Prevalence

Symptoms

Treatment

## ABSTRACT

**Background:** Uterine leiomyoma is the most common pelvic tumor in women, but the actual prevalence is unknown. **Objectives:** To review the literature on the prevalence of uterine leiomyoma, presenting symptoms, and medical management. **Search strategy:** On April 1–30, 2014, a PubMed search for studies reported in English was conducted using the terms “uterine leiomyoma,” “prevalence,” and “symptoms.” Another search was performed using the terms “uterine leiomyoma” and “treatment.” **Selection criteria:** All trial types other than internet-only studies were included. Animal studies were excluded from the prevalence/symptom review, but included in the medical management review. **Data collection and analysis:** Prevalence rates were recorded on the basis of imaging modality, cohort studied, ethnic origin, and age. **Main results:** Studies involving asymptomatic women revealed a trend in prevalence similar to that in symptomatic women, and showed that leiomyomas are more common in this cohort than previously recognized. Affected patients can present with many complaints, but no single symptom has been shown to be specific for this tumor. Various medical therapies are reviewed, summarizing efficacy and toxicity. **Conclusions:** Further research needs to be conducted on the prevalence in asymptomatic women. Current and future medical management options provide promising results in symptom reduction.

Published by Elsevier Ireland Ltd. on behalf of International Federation of Gynecology and Obstetrics.

## 1. Introduction

Uterine leiomyomas—monoclonal tumors of the myometrium—are the most common pelvic tumor in women [1]. Their clinical presentation can include dysmenorrhea, pelvic pain, menorrhagia, and infertility, although some are asymptomatic [2]. Because leiomyomas could remain undetected, there might be a large subset of women who are undiagnosed. The age-specific prevalence increases throughout the premenopausal years, with a significantly higher burden in African-American women than in white women in all age groups [3,4].

Leiomyomas are the most frequent indication for hysterectomy in the USA, and annual costs—including surgical procedures, hospital admissions, outpatient visits, and prescriptions—are estimated to range from \$4.1 to \$9.4 billion [3]. Furthermore, there is a disparity in costs between ethnic groups, with higher rates of hospitalization and surgery in African-American women than in white women [4].

To fully assess the impact of leiomyomas, data on early-stage disease are needed. The aim of the present paper was to review the available worldwide data on the prevalence of leiomyoma in various female

subgroups, and on the presenting symptoms. Currently available therapeutic options were assessed—including any data supporting their efficacy—for women with leiomyomas that have recently become symptomatic.

## 2. Materials and methods

For the present review, articles were initially identified through a PubMed search, using the keywords “uterine leiomyoma,” “prevalence,” and “symptoms.” Only human studies reported in English were included. The search was performed on April 1–30, 2014; no time limits were applied. Articles that used internet-based questioning only were excluded.

A separate PubMed search was performed to review research on the medical management of uterine leiomyomas, as described above. Initially, the terms “uterine leiomyoma” and “treatment” were used. From there, a core list of available treatment categories was obtained. Separate searches were then performed for each treatment category (e.g. “uterine leiomyoma” and “mifepristone”). Studies of people and animals were included.

Institutional review board approval was not required for the present review because all data obtained were from previously performed research.

\* Corresponding author at: Building A, Room 3078, 4301 Jones Bridge Road, Bethesda, MD 20814–4799, USA. Tel.: +1 301 295 3126; fax: +1 301 295 6774.

E-mail address: william.catherino@usuhs.edu (W.H. Catherino).

### 3. Results

#### 3.1. Prevalence in symptomatic women

Although data on the prevalence of leiomyoma in symptomatic women are more abundant than are data on asymptomatic disease, estimating the exact prevalence is difficult because of differences in the cohorts studied, in how fibroids are initially diagnosed (patient with presenting symptoms or by pelvic examination in an asymptomatic patient, as examples), and in the methods of diagnosis (e.g. pelvic examination or ultrasonography). In one US study [5], diagnosis was confirmed pathologically in 96% of African-American women and in 91% of white women. Furthermore, 40% of the white women and 66% of the African-American women without a prior diagnosis were found to have leiomyoma on examination of a hysterectomy specimen [5].

Overall, the identified studies showed that the prevalence among symptomatic women varies widely (Table 1). A higher prevalence tends to be seen in older cohorts and in cohorts that include women with a previous diagnosis of uterine leiomyoma. Women of African descent seem to have a higher prevalence of disease, an earlier time of diagnosis, and an earlier time of hysterectomy than do white women [4,5,7,11]. In the USA—with the exception of very few case reports [15]—the presence of uterine leiomyoma appears to be uncommon before the age of 20 years (Table 2). The prevalence tends to increase throughout the premenopausal years, peaking at approximately 50 years of age (Table 2).

#### 3.2. Symptoms

The difficulty in establishing the diagnosis is attributable to the diversity of the presenting complaints [6,8,12–15]. As such, it is important to take into account the presenting symptoms that are most closely associated with the diagnosis. Although there are some symptoms that are more common in women with leiomyoma, these symptoms are poor indicators when trying to determine a diagnosis. Furthermore, it is not uncommon for women to present with multiple complaints. Commonly reported symptoms include menorrhagia, dysmenorrhea, noncyclic pain, urinary symptoms, fatigue, and constipation [8,12]. Although many studies note the wide array of potential symptoms, few have quantified these findings, and even fewer have stratified the symptom frequencies by age and ethnic origin.

##### 3.2.1. Menorrhagia

Excessive cyclic bleeding is the most common presenting symptom among women diagnosed with uterine leiomyoma, occurring in

**Table 2**  
Prevalence of uterine leiomyoma by age among symptomatic women.

Study	Location	Prevalence	
		Overall	White women
Lippman et al. 2003 [6]	Italy	20–35 y	1.3%
		35–45 y	23.0%
		45–60 y	36.1%
Wegienka et al. 2003 [8]	USA	35–40 y	42.2%
		41–45 y	57.5%
		46–51 y	66.1%
Marino et al. 2004 [5]	Italy	30–44 y	14.5%
		45–60 y	35.1%
		Wise et al. 2005 [9]	USA
30–34 y	32.6%		
35–39 y	40.3%		
40–44 y	45.6%		
45–49 y	42.4%		
50–69 y	35.7%		
Eskenazi et al. 2007 [10]	Italy	20–30 y	0.9%
		31–40 y	16.8%
		41–50 y	49.8%
		>50 y	40.5%
Okogbo et al. 2011 [12]	Nigeria	<20 y	0.0%
		20–29 y	15.0%
		30–39 y	40.3%
		40–49 y	32.9%
		50–59 y	11.5%
		>60 y	0.4%
Fonseca-Moutinho et al. 2013 [14]	Portugal	<19 y	0.0%
		20–39 y	11.0%
		40–59 y	45.4%
		>60 y	19.5%

30.6%–73.3% of patients, and is not dependent on ethnic origin [5,8,12–14]. Women with leiomyoma identified through ultrasonography were more likely to report “gushing-type” bleeding and higher rates of tampon/pad use, which may result in anemia [16]. This bleeding could correlate with the fatigue and weakness reported in 22.5%–65% of women [5,12]. However, data from the Seveso Women’s Health Study indicated that the presence of leiomyoma on transvaginal ultrasonography was not significantly associated with the heaviness of flow in a group of 662 women aged 20–60 years (adjusted odds ratio [AOR] 1.3; 95% confidence interval [CI] 0.7–2.5) [8]. DeWaay et al. [17] noted that, although women for whom myomas were identified on saline

**Table 1**  
Prevalence of uterine leiomyoma among symptomatic women, by ethnic origin.

Study	Cohort	Study location	Method of diagnosis	Prevalence of uterine leiomyoma		
				Overall	Black women	White women
Kjerulff et al. 1996 [5]	445 women aged ≥18 years undergoing hysterectomy for noncancerous conditions	USA	Hysterectomy	74.5%	89.0%	59.0%
Lippman et al. 2003 [6]	635 premenopausal white women aged 20–60 years	Italy	TVUS	—	—	15.0%
Wegienka et al. 2003 [7]	910 randomly sampled women aged 35–39 years with or without a previous diagnosis of uterine leiomyoma	USA	US + TVUS	65.5%	61.4%	41.8%
Baird et al. 2003 [4]	1364 premenopausal women aged 35–39 years	USA	Self-report	—	45.0% (87% <sup>a</sup> )	21.0% (78.0% <sup>a</sup> )
Marino et al. 2004 [8]	662 premenopausal white women aged 20–60 years	Italy	TVUS	—	—	21.4%
Wise et al. 2005 [9]	22 895 premenopausal black women aged 21–69 years with no prior diagnosis of uterine leiomyoma	USA	US or hysterectomy	—	34.4%	—
Eskenazi et al. 2007 [10]	956 premenopausal women aged >20 years	Italy	TVUS	—	—	26.3%
Bower et al. 2009 [11]	1863 women aged 18–30 years (status post-hysterectomy)	USA	Self-report	—	29.5% (85.9% <sup>a</sup> )	13.9% (68.0% <sup>a</sup> )
Okogbo et al. 2011 [12]	1161 women aged 20–64 years admitted to a gynecology ward	Nigeria	Hysterectomy or myomectomy	—	9.3%	—
Ezeama et al. 2012 [13]	Retrospective chart review of all gynecology admissions at a teaching hospital	Nigeria	Histologically confirmed	—	10.7%	—
Fonseca-Moutinho et al. 2013 [14]	624 women aged 18–60 years	Portugal	TVUS	—	—	25.8%

Abbreviations: TVUS, transvaginal ultrasonography; US, abdominal ultrasonography.

<sup>a</sup> Percentage with confirmed diagnosis through TVUS.

Download English Version:

<https://daneshyari.com/en/article/3954027>

Download Persian Version:

<https://daneshyari.com/article/3954027>

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