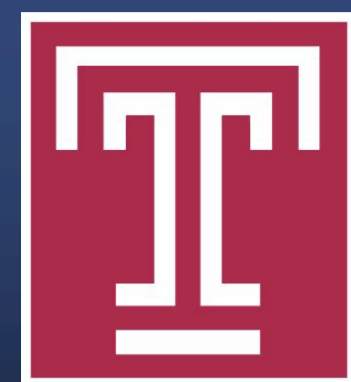


Uterine Fibroids and their Relation to Recurrent Plantar Fibromas in the Forefoot

Todd A. Hasenstein, DPM^a and Jane Pontious, DPM, FACFAS^b

^a Resident, Temple University Hospital Podiatric Surgical Residency Program, Philadelphia, PA

^b Clinical Professor, Department of Podiatric Surgery, Temple University School of Podiatric Medicine, Philadelphia, Pennsylvania



Purpose

The Etiology of Plantar Fibroma remains unknown (1). The primary treatment recommendation is surgical resection; however, the most common complication of surgical resection of plantar fibroma is recurrence (2). The recurrence rate has been reported from 30% to 80% (3-4). Literature states wide resection decreases the recurrence rates (1). In our practice, we have noticed plantar fibromas tend to affect women with uterine fibroids more often, especially recurring plantar fibromas.

Therefore, the purpose of this study is to identify whether uterine fibroids are a risk factor for recurrence of plantar fibromas after resection.

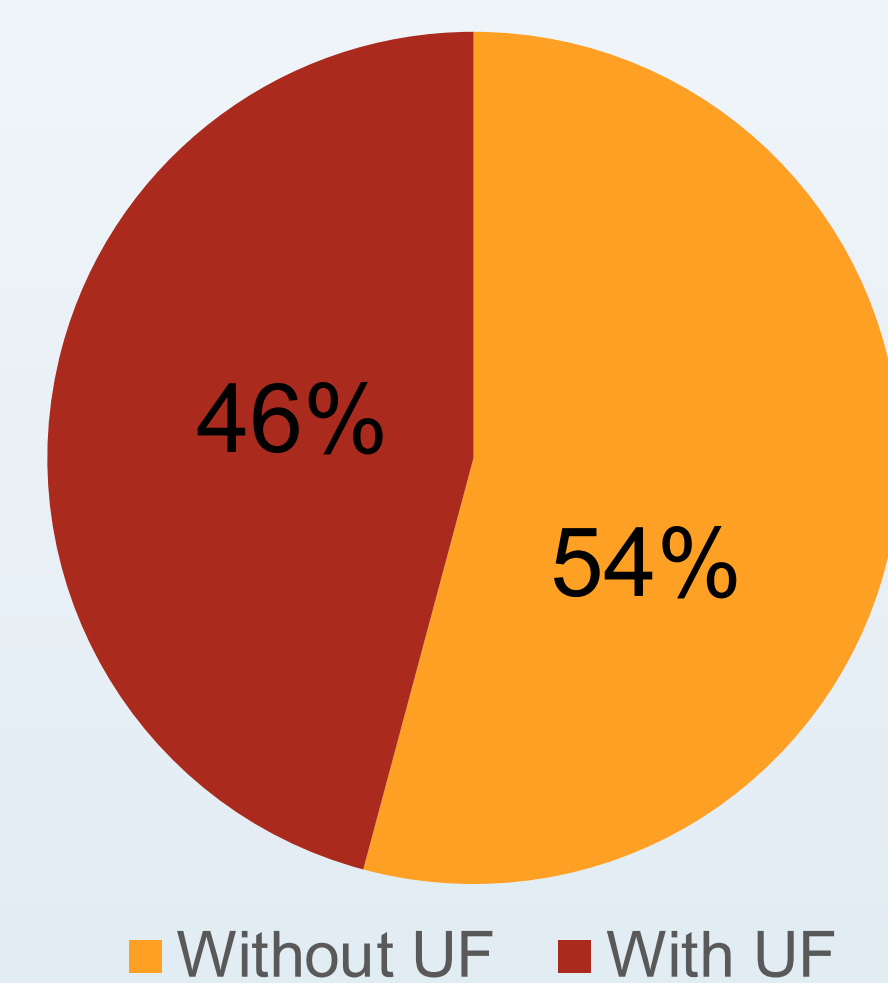
Methodology

A retrospective review was performed for patients from multiple foot and ankle surgeons at a large teaching institution using International Classification of Diseases (ICD) 9 and ICD-10 codes for Plantar Fibromas (728.71 and M72.2, respectively) from January 2007 to July 2017. Both outpatient charts, inpatients charts, and hospital operative records were reviewed to confirm the diagnosis of plantar fibromas. Each chart was also reviewed to identify if each patient had a recurrent problem with their plantar fibroma. All male patients and patients with plantar fasciitis were excluded from this study. During the data collection special note was made for each female patient had a known diagnosis of uterine fibroids. Patients were excluded from the study if they did not have an outpatient chart, to eliminate the patients that received their healthcare from two different institutions. Of the patients whose billing codes were reviewed, a total of 24 patients with plantar fibromas met criteria for inclusion and exclusion. Patient demographic information was also recorded and included gender, age, history of tobacco usage, and history of diabetes mellitus.

Results

A total of 80 patients were originally identified via retrospective ICD-9 and ICD-10 chart review. After the inclusion and exclusion criteria were implemented, twenty-four patients were identified with Plantar Fibromas and twelve patients with Uterine Fibroids. All twenty-four patients were female with a mean age of 56 years of age. Seventy-nine (79%) percent of patients were African American, 17% was White, and 4% was Hispanic. Eleven patients were identified whom were diagnosed with both Uterine Fibroids and Plantar Fibromas. Likewise, seven patients were identified to have recurrent Plantar Fibromas, which was at a rate of 19% of patients (7/24). Of the twenty-four patients with Plantar Fibromas eleven had Uterine Fibroids, which is 46% (11/24). Of the seven patients with recurrent Plantar Fibromas three had Uterine Fibroid, 57% (3/7) of the recurrent Plantar Fibromas group.

All Plantar Fibromas with and without Uterine Fibroids



Recurrent Plantar Fibromas with and without Uterine Fibroids

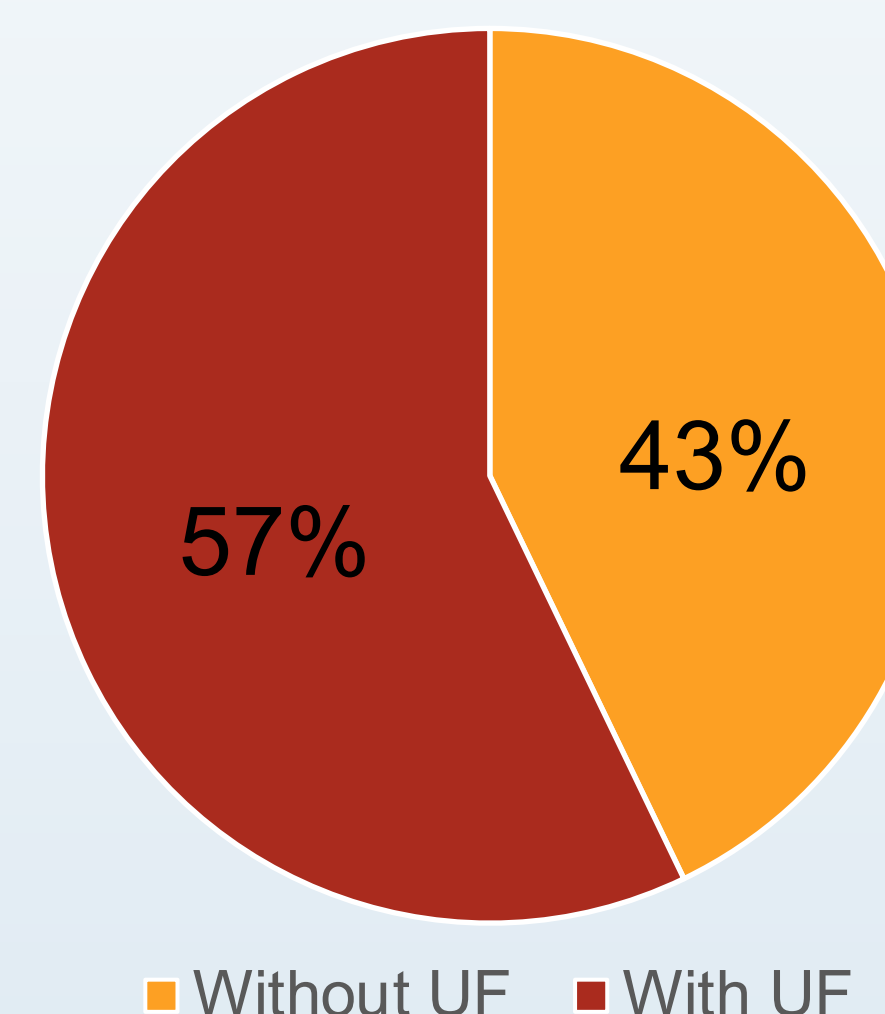


Fig 1a and Fig 1b: Pie Charts

These diagrams demonstrate the distribution of patients with and without Uterine Fibroids for both patients with all Plantar Fibromas and Recurrent Plantar Fibromas. 46% of all Plantar Fibromas were associated with Uterine Fibroids, while 57% of Recurrent Plantar Fibromas were associated with Uterine Fibroids.

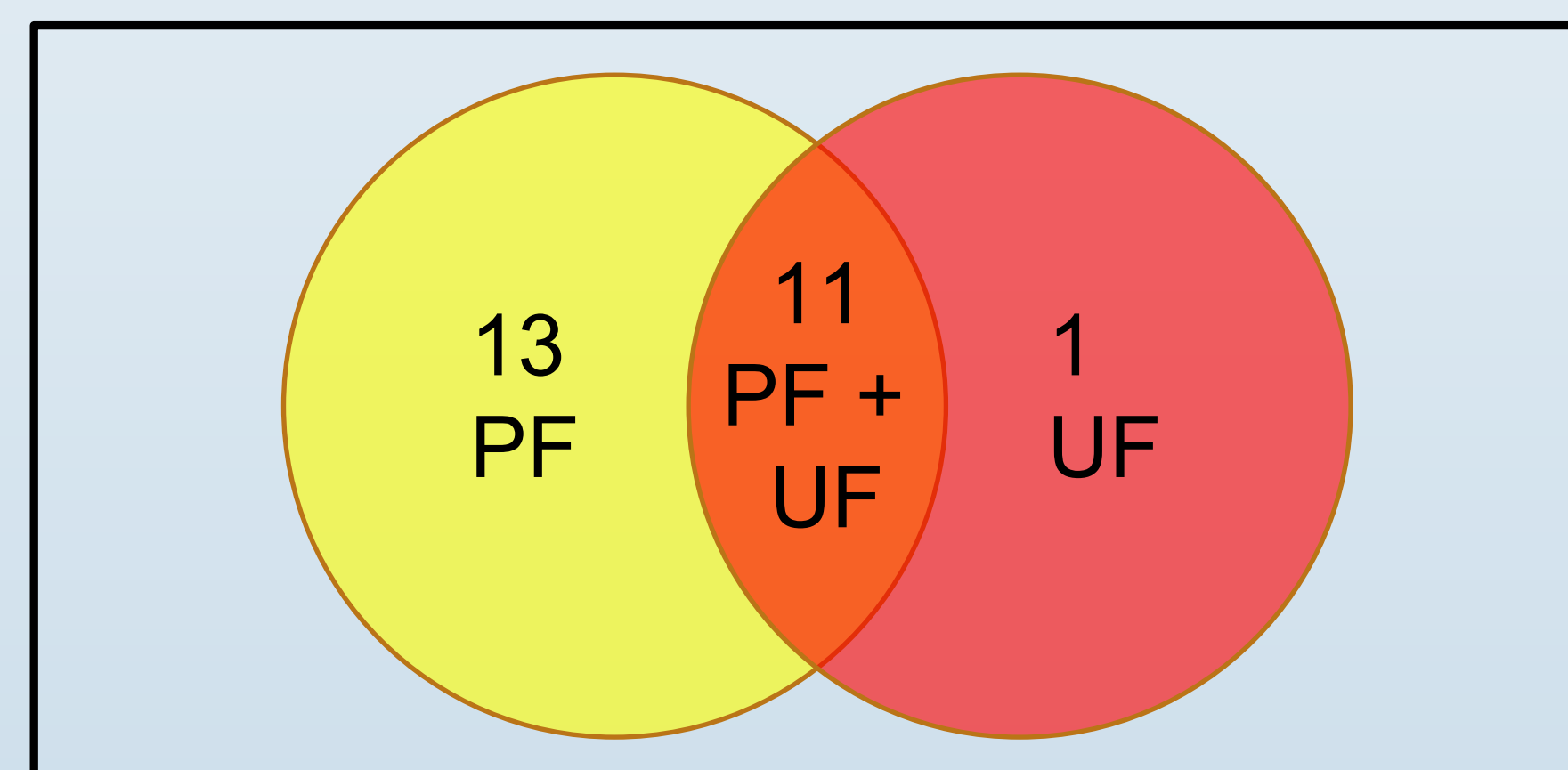


Fig 2: Venn Diagram

This diagram displays the distribution of patients into each category. A Total of 25 patients, whom either had a Plantar Fibroma (PF) or a Uterine Fibroid (UF). Of the 25 total patients; 13 had PF (shown in yellow), 1 had UF (shown in Red), and 11 had both PF and UF (shown in Orange).

Discussion

As with any scientific investigation, critical readers are encouraged to review the study design and results and reach their own conclusions, while the following represents our conclusions based on the specific results. As scientists, we also never consider data to be definitive, but do think that these results are worthy of attention and future investigation.

Our study attempts to determine if there is an association between Plantar Fibromas and Uterine Fibroids. This data may be beneficial in providing foot and ankle surgeons with expectations regarding likelihood of reoccurrence of Plantar Fibromas after excision.

- **First**, the data demonstrates that patients who had Uterine Fibroids were more likely to have a reoccurring Plantar Fibroma after excisional debridement. This is seen with 46% of patients with Plantar Fibroma also have Uterine Fibroids, and how this number increases to 57% when it's a reoccurring Plantar Fibroma. Possible cause of this is a systemic fibrous pathology, which we did not analyze in this study. These would also, be a limitation this our study.
- **Second**, the results may seem to suggest Uterine Fibroids increase the odds of developing a Plantar Fibroma. These can be seen in Fig. 2, how only one patient has Uterine Fibroids without Plantar Fibromas. However, this should be ignored, and is likely due to selection bias via research design. Which would be another limitation to this study. We need not study pathology correlation in this study.

In conclusion, we hope that the results of this investigation add to the body of knowledge and lead to future investigations into the progression, evaluation and treatment of the Plantar Fibromas.

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