

Article

A Comprehensive Review: Plantar Fasciitis in Geriatric Patients in Indonesia

Henry Ricardo Handoyo¹, Paul L Tahalele², Andre Young³, Kevin Samsudin⁴, Yovita Vivi Megasari⁵, Agustinus Bimo Gumelar⁶, Ageng Salmanarrizqie⁷

¹Department of Anatomy and Histology, Faculty of Medicine, Widya Mandala Catholic University Surabaya, East Java, Indonesia

^{2,3,4}Department of Surgery and Anesthesia, Faculty of Medicine, Widya Mandala Catholic University Surabaya, East Java, Indonesia

⁵Department of Physiology and Histology, Faculty of Medicine, Widya Mandala Catholic University Surabaya, East Java, Indonesia

⁶Department of informatics, Faculty of Engineering, Widya Mandala Catholic University Surabaya, East Java, Indonesia

⁷Department of informatics, Faculty of Engineering, Dr. Soetomo University Surabaya, East Java, Indonesia

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CORRESPONDENCE

Phone: 0812-3198-603

E-mail: henry_ricardo@ukwms.ac.id

A B S T R A C T

Plantar fasciitis is a degenerative condition affecting the connective tissue in the heel, characterized by pain at the medial plantar tuberosity of the calcaneus. It commonly occurs in elderly individuals aged 60 and above, with most cases resolving without treatment. However, therapeutic options become limited for older patients, particularly those aged 40 and above. This study evaluates various treatment methods for geriatric patients with plantar fasciitis, focusing on both medical and non-medical approaches. A comprehensive review of 19 relevant journals from 2000 to 2024 was conducted, analyzing treatments and their effectiveness in elderly populations. The results consistently demonstrated that Platelet-Rich Plasma (PRP) injections were highly effective in treating plantar fasciitis in elderly patients. No non-injection treatments were found to surpass the efficacy of PRP. Further research is needed to explore additional effective therapies for geriatric plantar fasciitis beyond PRP.

I. INTRODUCTION

Plantar fasciitis is a common degenerative condition that affects the connective tissue in the heel region and is marked by pain in the medial plantar tuberosity of the calcaneus at the proximal insertion of the plantar fascia. This pain is typically felt in the morning upon waking and tends to decrease after physical activity. The condition often occurs in active adults, particularly those aged 60 years and above, and can be exacerbated by factors such as obesity, long-distance running, or prolonged standing, which may cause injury or tears in the plantar fascia. Additionally, the highest incidence of plantar fasciitis pain is observed in women aged 40 to 60 years (Stevan, 2020).

Risk factors for plantar fasciitis are diverse, including aging (typically occurring between the ages of 40 and 70), obesity, pregnancy, anatomical abnormalities such as flat feet (pes planus), and biomechanical issues that lead to uneven weight distribution when standing, including overpronation, dorsiflexion, tight posterior chain, and weak proximal muscles (Stevan, 2020). Certain sports that exert significant pressure on the heel and plantar fascia tissue, such as long-distance running, ballet, and dancing, also pose a risk for developing plantar fasciitis. Moreover, occupations that require employees to stand upright for extended periods or walk for long durations contribute to the risk of developing plantar fasciitis (Mayo Clinic Proceedings, 2023).

Various treatments, both medical and non-medical, are available to alleviate the symptoms of plantar fasciitis. However, many of these treatments do not fully eliminate the condition but only temporarily relieve symptoms¹. As individuals age, the range of applicable treatments narrows, especially for elderly patients aged 40 years and above or for geriatric clinics managing elderly patients with plantar fasciitis.

II. METHODS

This comprehensive review was conducted by searching for relevant journals on Mendeley regarding plantar fasciitis in the geriatric population. The search covered publications from 2000 to 2024, focusing on articles that discussed treatments and therapeutic approaches for elderly patients. The selected journals were chosen based on their relevance and the quality of research they offered in the context of managing plantar fasciitis in the elderly population.

The search considered various types of treatments reported in the studies, including medical and non-medical methods, as well as their effects on different age groups. This approach aimed to provide an overview of the effectiveness of various therapies and identify trends and gaps in the treatment of plantar fasciitis, particularly in geriatric patients.

III. RESULT

Pathophysiology

Plantar Fasciitis is part of a degenerative process involving granulation tissue, microtears, collagen disarray, and traditional inflammation. Ultrasound evaluations often show intra-substance tears, widening, and heterogeneity of the plantar fascia, indicating a non-inflammatory condition and vascular dysfunction. Microtears occur due to repetitive pressure on the plantar fascia when standing upright and bearing weight for prolonged periods, leading to chronic degeneration and pain during rest or sleep (Jarde, et al, 2003).

Plantar Fasciitis is also triggered by anatomical changes and pressure distribution, especially in diabetic neuropathic feet. Anatomically, the plantar fascia consists of three bands of connective tissue originating from the medial calcaneal tubercle and inserting into the base of each proximal phalanx. When the plantar fascia is stretched, the tension consolidates the medial longitudinal arch, allowing the foot to function as a rigid lever for forward propulsion along with inversion at the Chopart joint line. Increased plantar pressure distribution has been observed in patients with diabetes (Gariani,et al, 2020).

Additionally, Plantar Fasciitis can occur due to biomechanical stress on the foot. Patients with lower foot arches may develop plantar fasciitis due to excessive movement, while those with higher foot arches may experience it due to insufficient movement, as shown in Figures 1 and 2 (Bolgla and Malone, 2004).

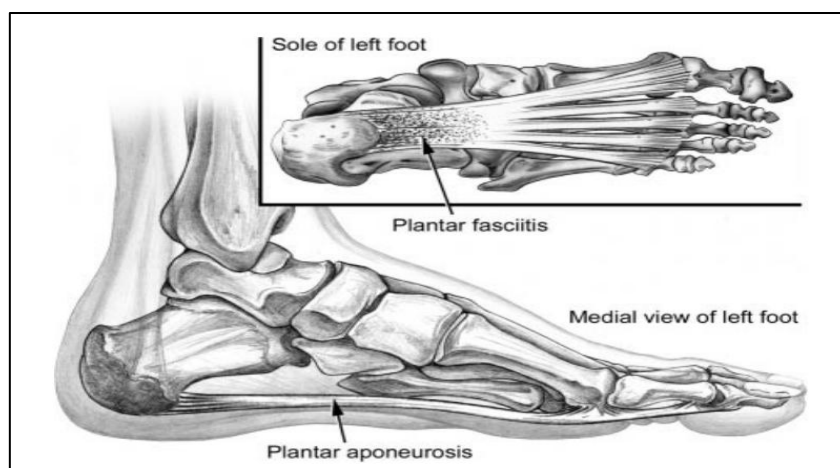


Figure 1. Plantar Aponeurosis that Extends from The Calcaneus and Widens Distal to The Phalanges



Figure 2. The Triangular Shape Shows the Frame Formed by The Calcaneus, Midtarsal Joints and Metatarsals.

Prevalence and Impact on the Geriatric Population

Plantar Fasciitis occurs in 10% of the general population, with 83% of these patients being working adults aged between 25 and 65 years. The peak incidence of Plantar Fasciitis occurs in the general population aged 40 to 60 years (Nahin, 2018). Plantar Fasciitis can appear bilaterally in one-third of cases. Additionally, the prevalence of plantar fasciitis is higher in women compared to men, particularly in women aged 45 to 64 years compared to those aged

18 to 44 years, especially in women with a Body Mass Index (BMI) of 25 kg/m² or higher (Lapidus and Guidotti, 1965).

A study aimed at determining the prevalence of Plantar Fasciitis among pharmacists used the Foot Function Index (FFI) evaluation method. This study involved 100 pharmacists aged between 46 and 60 years. The results showed a high prevalence of Plantar Fasciitis among pharmacists. It was also observed that there was an increase in the occurrence of Plantar pain, disability, and activity limitations with advancing age (Jumle and Zore, 2023).

Additionally, another study estimated the prevalence of plantar fasciitis in adults in the US, as well as the types and frequency of pharmaceutical treatments specifically for this pain. Data were obtained from the 2013 National Health and Wellness Survey (NHWS) (Kantar Health, New York, NY), an Internet-based questionnaire self-administered by a large sample (N = 75,000) identified through a web-based consumer panel (Lightspeed GMI, Warren, NJ) and its affiliates. The NHWS was reviewed and approved by an independent institutional review board (Essex IRB, Lebanon, NJ). All respondents in the NHWS provided online written consent to participate before data collection. The conclusions drawn from this study, which involved a large sample of adults in the US, offer additional insights into the prevalence of plantar fasciitis (Nahin, 2018).

Treatment Options and Progress in Geriatrics

Plantar fasciitis is essentially a clinical diagnosis. Generally, patients describe medial plantar heel pain when bearing weight, which is often intense during the first few steps in the morning but tends to improve with rest. A musculoskeletal examination of both lower extremities should be performed⁹. Common findings from a physical examination indicating plantar fasciitis include reproducible pain with palpation on the medial plantar aspect of the heel and pain with passive dorsiflexion of the ankle and toes, as illustrated in Figure 3 (Thompson, et al, 2014).

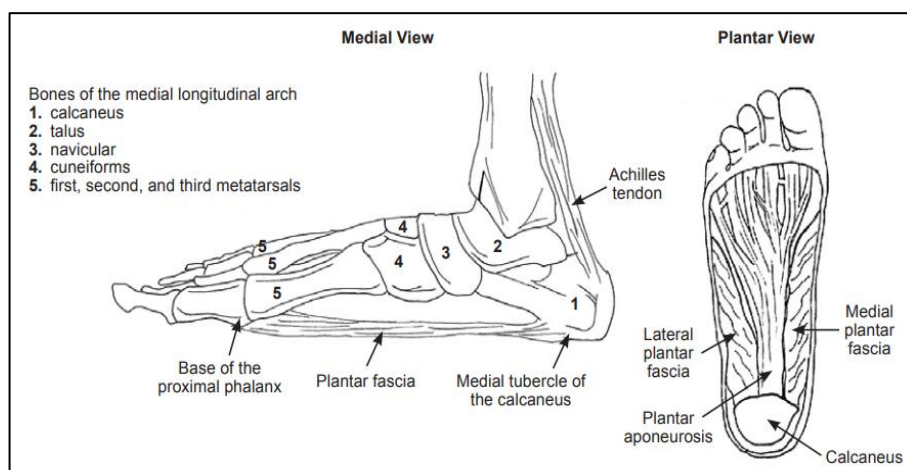


Figure 3. Mapping The Diagnosis of Plantar Dasciitis

Additionally, diagnostic imaging is not recommended for the initial evaluation of plantar fasciitis. However, Magnetic Resonance Imaging (MRI), Triple-Phase Bone Scans, or other imaging results may be necessary for differential diagnosis considerations, especially when non-surgical treatments fail over 4 to 6 months or when patients present with unusual heel pain (Thompson, et al, 2014).

A study evaluating the use of Magnetic Resonance Imaging (MRI) across various age groups of patients with plantar fasciitis supports this approach. The study involved 160 subjects, categorized into three groups based on age: adults (36–44 years), middle-aged (45–59 years), and elderly (60–79 years). The conclusion of the study highlighted the difficulty in diagnosing plantar fasciitis; abnormalities in the deep soft tissues surrounding the plantar fascia in adult patients need attention. In middle-aged patients, the presence of plantar calcaneal spurs with abnormal thickness of the plantar fascia should be noted, and MRI use revealed more abnormal findings. Therefore, the final diagnosis should be based on medical history (Zhang, et al 2023).

This was further corroborated by another study using Ultrasound (USG) to differentiate between normal plantar fascia and that affected by plantar fasciitis. The study found no significant correlation between the thickness of the plantar aponeurosis measured using digital radiography and ultrasound. However, digital radiography shows potential as a definitive diagnostic modality for plantar fasciitis (Prasetyo, et al, 2017).

Treatment Options and Progress in Geriatric Patients

The first literature review examines the treatment of plantar fasciitis, categorizing methods into two primary groups: Non-Surgical and Surgical Treatments. Non-Surgical treatments encompass various approaches, including physical therapy, orthotics, and medications. Among the medications, Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) are commonly used to manage pain and inflammation. However, the literature indicates that NSAID treatment is the least effective option for plantar fasciitis overall. This is due to its limited impact on the underlying degenerative changes and its potential side effects. On the other hand, specific stretching exercises targeted at the plantar fascia have statistically proven to be effective in achieving long-term relief. These exercises help improve flexibility and strength, which is crucial for patients aged between 45 and 65 years who often suffer from this condition (Stevan, 2020).

The second literature review examines a study conducted in Nepal with 52 patients aged 41–60 years who had not responded to conservative treatments for plantar fasciitis. The study compares the effectiveness of Platelet-Rich Plasma (PRP) injections and Steroid injections. PRP, derived from the patient's blood and rich in growth factors, promotes healing and tissue regeneration. As shown in Figure 4 (Engelen, 2017), PRP injections yielded better results than Steroid injections after six months. Patients receiving PRP experienced greater pain relief, functional improvement, and a significant reduction in the thickness of the plantar fascia. This suggests that PRP injections not only provide symptomatic relief but also promote healing by reducing inflammation and supporting tissue repair (Sharma, et al, 2023).

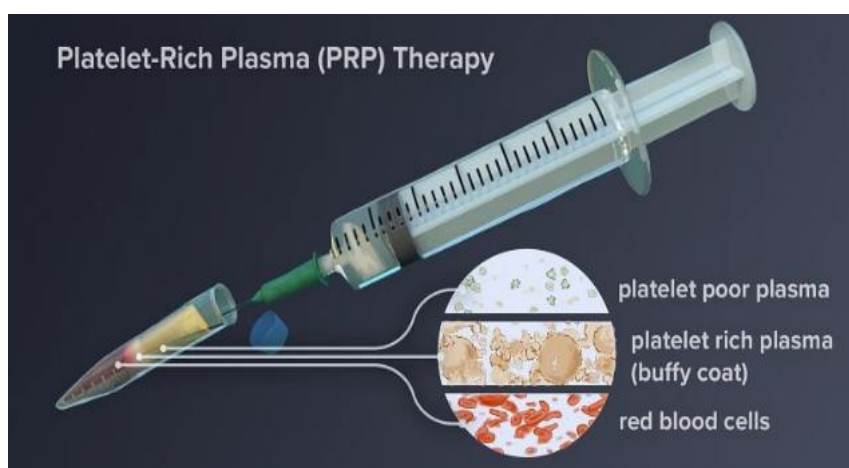


Figure 4. Content of Platelet-Rick Plasma (PRP) Injection

The next study on a larger scale used PRP on 92 plantar fasciitis patients aged 35–65 years. Patients were examined after 1 week, 4 weeks, and 12 weeks post-procedure to assess periodic pain reduction, with results showing that more than 60 patients experienced significant pain relief with a VAS pain score not exceeding 7 (Naik, et al, 2021).

Next, by comparing PRP and steroid treatments in 118 patients divided into two groups where all patients were under 40 years old. Pain was assessed using the Visual Analog Scale (VAS) at 2 weeks, 4 weeks, 3 months, and 6 months post-treatment. The results showed that the PRP group improved better than the steroid group in terms of VAS and AOFAS scores at the 6-month mark, and after 6 months, no patients required repeat injections (Khurana, et al, 2021).

The following literature compares PRP and Corticosteroid (CS) (Methylprednisolone) treatments in patients with chronic plantar fasciitis, evaluating the safety, side effects, and complications of both treatment methods. The study involved 110 patients with chronic plantar fasciitis aged above 18 years, divided into two groups: 55 patients received PRP injections and 55 patients received CS injections – 2 ml (40 mg) Methylprednisolone with 2 ml of sterile water injection, as shown in Figure 5 (Vellingiri, 2022). The results showed that PRP injection is a better treatment for chronic plantar fasciitis patients compared to CS injection, as evidenced by the comparison of AOFAS, FAI, and plantar fascia thickness using ultrasonogram before and after the treatment procedure (Vellingiri, 2022). Additionally, with the same treatment but on a different scale, involving 60 patients diagnosed with plantar fasciitis and treated conservatively for 3 months, the study results showed that CS injections potentially lead to complications, whereas PRP injections are safer and more effective in treating plantar fasciitis (Aksahin, et al, 2012).

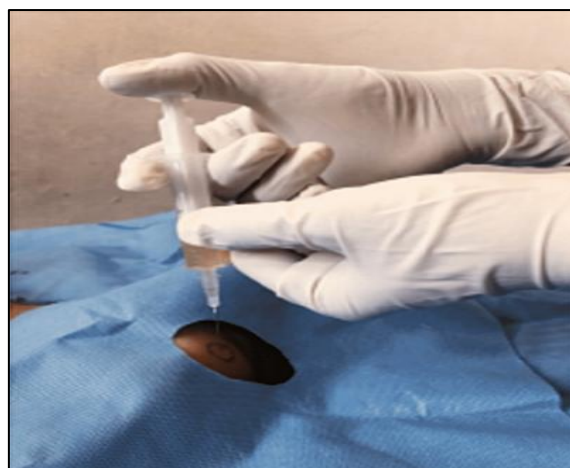


Figure 5. PRP is administered to maximally cover the area of pain

The last literature discusses PRP treatment in 295 plantar fasciitis patients, with 290 of them being women. 100 patients were aged between 20–40 years, and 195 other patients were aged between 40–60 years. The study reported that PRP injections successfully improved pain symptoms in most patients, with at least half of the population reporting excellent results (Saleem, et al, 2022).

Below is a breakdown of the literature that conducted research on plantar fasciitis using Platelet-Rich Plasma (PRP) treatment, researched as a comparison or focus of the study, and can be seen in Table 1.

Table 1. Literacy Study of PRP Treatment in Plantar Fasciitis

Paper	Treatment	Patients	Evaluation
Effect of platelet-rich plasma versus steroid injection in plantar fasciitis: a randomized clinical trial (Sharma, et al, 2021)	Platelet-Rich Plasma (PRP) dan Steroid	52 Patients, Age range 41 – 60 years	VAS, AOFAS, and Plantar Fascia Thickness
Autologous PRP injection: A safe solution for plantar fasciitis (Naik, et al, 2021)	Platelet-Rich Plasma (PRP)	92 Patients, Age range 35 – 65 years	VAS
Comparison of midterm results of Platelet Rich Plasma (PRP) versus Steroid for plantar fasciitis: A randomized control trial of 118 patients (Khurana, et al, 2021)	Platelet-Rich Plasma (PRP) dan Steroid	118 Patients, below 60 years	VAS dan AOFAS
A Prospective Study Comparing the Efficacy of Local Injection of Platelet-Rich Plasma (PRP) vs Methylprednisolone in Plantar Fasciitis (Vellingiri, et al, 2022)	Platelet-Rich Plasma (PRP) vs Corticosterid	110 Patients, above 18 years	AOFAS, FAI, and Plantar Fascia Thickness
The comparison of the effect of corticosteroids and platelet-rich plasma (PRP) for the treatment	Platelet-Rich Plasma (PRP) vs Corticosteroid	60 Patients	VAS dan Roles-Maudsley Score

Paper	Treatment	Patients	Evaluation
of plantar fasciitis (Aksahin, et al, 2012) Outcome of Platelets Rich Plasma (PRP) in Treatment of Plantar Fasciitis (Saleem, et al, 2022)	Platelet-Rich Plasma (PRP)	295 Patients, Age range 20 – 60 years	VAS

In the third literature, the use of Extracorporeal Shock Wave Therapy (ESWT) to treat Plantar Fasciitis from nine studies is discussed, including six comparative reports using Focused Shock Wave (FSW) with placebo and three comparisons using Radial Shock Wave (RSW). The literature involved 935 patients with an average age range of 40–70 years. The study results showed that treatment using ESWT had the highest improvement rate compared to the placebo therapy FSW and RSW (Sun, et al, 2017).

However, in the following literature in 2002, using the same treatment, namely Extracorporeal Shock Wave Therapy (ESWT), to treat chronic Plantar Fasciitis, involving 272 patients, with 135 allocated for ESWT treatment and 137 patients allocated for placebo. The results showed that ESWT treatment was not effective in curing chronic Plantar Fasciitis, either from the ESWT treatment itself or the placebo effect (Hake, et al, 2003).

Additionally, in literature focused on treating Plantar Fasciitis with varying activity levels and pain locations using ESWT. With 92 Plantar Fasciitis patients aged over 40 years categorized into sports activity (Group R) or daily life activities (Group D). Moreover, patients were also categorized based on the location of the pain experienced in the Plantar Fascia Enthesis (Group E) or the entire Plantar Fascia (Group W). The results showed that ESWT treatment was effective for treating Plantar Fasciitis in middle-aged patients, and ESWT was not only effective for patients (Group R) but also for patients (Group D). However, ESWT was more effective for patients experiencing pain in (Group E) compared to patients feeling pain in (Group W) (Hanada, et al, 2019).

The following literature compares Plantar Fasciitis treatment using ESWT and Low-Level Laser Therapy (LLLT) in 34 patients with an average age of 52 years. The comparison focused on the thickness of the Plantar Fascia, heel pain, and foot function in patients with Plantar Fasciitis. Additionally, patients were evaluated before and after treatment using VAS, Foot Function Index (FFI), and the thickness of the Plantar Fascia using ultrasonography. The conclusion of the study showed that both ESWT and LLLT treatments appeared effective in pain, foot function, and Plantar Fascia thickness in patients suffering from Plantar Fasciitis (Yinilmez, et al, 2019).

Next, in a comparison of ESWT treatment in 49 Plantar Fasciitis patients and treatment using Local Corticosteroid Injection (LCI) in 47 Plantar Fasciitis patients over six months. The results of the study showed that both ESWT and LCI treatments were equally successful in clinical improvement, but ESWT provided longer pain relief than LCI treatment (Xu, et al, 2019).

The final literature compares ESWT with Endoscopic Plantar Fasciotomy (EPF) in 37 Plantar Fasciitis patients divided into two groups: the first group consisted of 17 patients with an average age of 42 years treated using EPF, and the second group consisted of 20 patients with

an average age of 45 years treated using ESWT. The conclusion of the literature showed that treatment using ESWT should be performed before EPF treatment (Othman and Ragap, 2010).

Below is a breakdown of the literature that conducted research on Plantar Fasciitis using Extracorporeal Shock Wave Therapy (ESWT) treatment, researched as a comparison or focus of the study, and can be seen in Table 2.

Table 2. Literature Study of ESWT Treatment in Plantar Fasciitis

Paper	Treatment	Patients	Evaluation
Extracorporeal shock wave therapy is effective in treating chronic plantar fasciitis: A meta-analysis of RCTs (Sun, et al, 2017).	<i>Extracorporeal Shock Wave Therapy (ESWT), Focused Shock Wave (FSW), dan Radial Shock Wave (RSW)</i>	935 Patients, average age 40 – 70 years	Odds Ratios (ORs) of Pain Relief, Pain Reduction, and Complications
Extracorporeal shock wave therapy for plantar fasciitis: randomized controlled multicenter trial (Hake, et al, 2003).	<i>Extracorporeal Shock Wave Therapy (ESWT)</i>	272 Patients	Roles-Maudsley Score
The effect of extracorporeal shock wave therapy for the treatment of plantar fasciitis in regard to middle-aged patients' activity level and pain localization (Hanada, et al, 2019).	<i>Extracorporeal Shock Wave Therapy (ESWT)</i>	92 Patients, above 40 years	VAS
Comparison of effects of low-level laser therapy and extracorporeal shock wave therapy in plantar fasciitis treatment: A randomized, prospective, single-blind clinical study (Yinilmez, et al, 2019).	<i>Extracorporeal Shock Wave Therapy (ESWT) dan Low-Level Laser Therapy (LLLT)</i>	34 Patients, average age 52 years	VAS, FFI, and Plantar Fascia Thickness
Comparison Between Extracorporeal Shock Wave Therapy and Local Corticosteroid Injection for Plantar Fasciitis (Xu, et al, 2019).	<i>Extracorporeal Shock Wave Therapy (ESWT) dan Local Cort steroid Injection (LCI)</i>	96 Patients	VAS, FFI, and Plantar Fascia Thickness
Endoscopic plantar fasciotomy versus extracorporeal shock wave therapy for treatment of chronic plantar fasciitis (Othman and Ragap, 2010).	<i>Extracorporeal Shock Wave Therapy (ESWT) dan Endoscopic Plantar Fasciotomy (EPF)</i>	37 Patients, average age 42 – 45 years	VAS

In the fourth literature, Ultrasonic Therapy was used for Plantar Fasciitis, focusing on the results of reducing pain intensity and functional disability²⁵. The conclusion of the systematic review showed that Ultrasonic Therapy for Plantar Fasciitis is highly beneficial in reducing pain intensity and functional disability. An illustration of Plantar Fasciitis treatment using ultrasound is provided (Torborg, 2016).

In the fifth literature, Prolotherapy based on injections was used to address chronic musculoskeletal conditions such as Plantar Fasciitis. This procedure involves injecting Prolotherapy into the Plantar Fascia tissue to trigger a healing response through osmotic cell rupture. Prolotherapy proved to be more effective than corticosteroid injections and helped heal tissues similar to PRP injections. Additionally, Prolotherapy is easier to prepare, less invasive, and more cost-effective compared to PRP. Prolotherapy is considered safer and more effective, with only a few reports of mild side effects or discomfort at the injection site (Traulli, et al, 2021).

In the sixth literature, the Pain Neuroscience Education (PNE) approach in physical therapy is discussed to improve foot and ankle function and reduce pain in seven patients with chronic Plantar Fasciitis with an average age of 50 years. Physical therapy was integrated with formal physical therapy conducted in six sessions over 15 minutes. The results showed that physical therapy integrated with PNE has the potential to benefit patients with chronic Plantar Fasciitis (Mills, et al, 2021).

In the seventh literature, calf stretching treatment for Plantar Fasciitis in Indonesia is discussed. The study involved 20 patients with an average age of 40 years who underwent calf stretching training for 30 days at the Orthopedic Polyclinic of Dr. Soetomo Hospital between 2018 and 2019. Training was conducted twice a day for 10–15 minutes per session. The results showed that this method was more effective compared to Plantar Fasciitis stretching based on AOFAS scores, as shown in Table 3 (Desnantyo and Wahyu, 2024).

Table 3. 20 Case Series of Patients Diagnosed with Plantar Fasciitis

No.	Px	Symptoms	Diagnosis	AOFAS
1	Male, 30 Years Old	Heel pain in left foot for 4 months	Pedis Sinistra	100
2	Female, 50 Years Old	Heel pain in right foot for 2 months	Pedis Dextra	89
3	Female, 52 Years Old	Heel pain in right foot for 3 months	Pedis Sinistra	99
4	Female, 39 Years Old	Heel pain in right foot for 1 month	Pedis Dextra	98
5	Female, 34 Years Old	Heel pain in right foot for 1 week	Pedis Dextra and High arch foot Dextra	88
6	Female, 51 Years Old	Heel pain in right foot for 1.5 months	Pedis Dextra and High arch foot Dextra	92
7	Female, 37 Years Old	Heel pain in right foot for 1.5 months	Pedis Dextra	98
8	Female, 75 Years Old	Heel pain in left foot for 2 months	Pedis Dextra	88
9	Male, 36	Heel pain in right foot for 5	Pedis Sinistra	98

No.	Px	Symptoms	Diagnosis	AOFAS
	Years Old	months		
10	Female, 57 Years Old	Heel pain in both feet for 6 months	Pedis Bilateral	89
11	Male, 54 Years Old	Heel pain in both feet for 2 months	Pedis Dextra	90
12	Female, 41 Years Old	Heel pain in right foot for 1 month	Pedis Dextra	100
13	Male, 54 Years Old	Heel pain in both feet for 5 months	Pedis Sinistra	100
14	Female, 56 Years Old	Heel pain in right foot for 3 months	Pedis Sinistra and High arch foot Sinistra	81
15	Female, 24 Years Old	Heel pain in both feet for 3 months	Pedis Bilateral	89
16	Female, 49 Years Old	Heel pain in both feet for 6 months	Pedis Sinistra	99
17	Male, 51 Years Old	Heel pain in both feet for 12 months	Pedis Bilateral	99
18	Female, 43 Years Old	Heel pain in right foot for 1 month	Pedis Dextra	88
19	Female, 43 Years Old	Heel pain in right foot for 6 months	Pedis Dextra and High arch foot Dextra	83
20	Male, 51 Years Old	Heel pain in both feet for 4 months	Pedis Bilateral	88

In the eighth literature, the treatment of Plantar Fasciitis using Plantar Orthoses in 10 patients with an average age of 51 years is discussed. The treatment was conducted over 9 weeks, and it was reported that pain due to Plantar Fasciitis significantly decreased by the third week. However, after 9 weeks of using Plantar Orthoses, none of the patients were declared fully recovered based on the biomedical voice principle. This was because no neural changes were observed, despite the reduction in pain (Moyné-Bressand, et al, 2018).

IV. DISCUSSION

The findings from the reviewed literature provide a comprehensive understanding of the various treatment options available for Plantar Fasciitis, particularly in geriatric patients. Each method has its own advantages and limitations, and their effectiveness varies depending on factors such as age, activity level, and the severity of the condition.

PRP injections have consistently demonstrated superior outcomes compared to other treatments, such as corticosteroid injections or placebo therapies. Studies involving patients aged 35–65 years showed significant improvements in pain relief and functional recovery. PRP's ability to promote tissue healing and reduce inflammation makes it a promising option for geriatric patients, who often face limitations in treatment choices due to age-related factors.

ESWT has shown mixed results across different studies. While some research highlights its effectiveness in reducing pain and improving function, others report limited success, particularly in chronic cases. The therapy appears to be more effective in middle-aged patients and those experiencing localized pain at the Plantar Fascia Enthesis. However, its long-term efficacy and cost-effectiveness remain areas for further investigation.

Non-medical interventions, such as calf stretching, ultrasound therapy, and Prolotherapy, have also been explored. These methods are generally safer and less invasive, making them suitable for elderly patients. For instance, calf stretching was found to be more effective than traditional Plantar Fasciitis stretching techniques, as evidenced by improved AOFAS scores. Similarly, Prolotherapy offers a cost-effective alternative to PRP, with comparable benefits in tissue healing and pain reduction.

Despite the progress made in treating Plantar Fasciitis, several gaps remain. Most studies focus on short- to medium-term outcomes, leaving the long-term effects of these treatments underexplored. Additionally, there is a need for more research into non-invasive and cost-effective therapies, especially for geriatric populations who may not tolerate invasive procedures well. Future studies should also investigate the role of patient-specific factors, such as biomechanics and comorbidities, in determining treatment outcomes.

The management of Plantar Fasciitis in geriatric patients requires a tailored approach that considers their unique needs and limitations. Non-surgical treatments, such as PRP injections and physical therapy, should be prioritized to minimize risks and enhance quality of life. Moreover, integrating educational approaches like Pain Neuroscience Education (PNE) can empower patients to better manage their symptoms and improve adherence to treatment plans.

V. CONCLUSION

Plantar Fasciitis is still considered by the general public as a self-healing pain condition that does not require special care or treatment by doctors or specialists for Plantar Fasciitis treatment in Geriatric Clinics to help diagnose, alleviate, or even eliminate the condition. It needs to be outlined in the form of a literature study, such as NSAID treatment, Platelet-Rich Plasma (PRP) injections, Extracorporeal Shock Wave Therapy (ESWT), Ultrasonic, Prolotherapy, and even non-medical treatments such as the Pain Neuroscience Education (PNE) approach in physical therapy and calf stretching for Plantar Fasciitis. These need to be outlined to narrow down the literature needed to understand Plantar Fasciitis in the elderly.

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BIOGRAPHY

Henry Ricardo Handoyo is an accomplished medical professional with extensive experience in orthopedics and traumatology. He earned his Bachelor's degree in Medicine from Universitas Hang Tuah in 2009, and then specialized in Orthopedics and Traumatology at the Faculty of Medicine, Universitas Udayana, graduating in 2015. In the same year, he also obtained his Master's degree in Biomedical Sciences from Universitas Udayana. He has participated in prestigious fellowship programs, including at the National Hospital Organization Kure Medical Center and Chugoku Cancer Center in Hiroshima, Japan (April-May 2015), and at the Department of Orthopaedics, Faculty of Medicine, Thammasat University, Thailand (October 2019 - March 2020). Recently, he completed his Doctoral program in Biomedical Sciences at the Faculty of Medicine, Universitas Brawijaya (February 2021 - September 2023).

Paul L Tahalele was born in Mataram on March 4, 1948. He completed most of his education at Universitas Airlangga, earning his Medical Doctor degree in 1975, Specialist in Surgery in 1981, Specialist in Thoracic and Cardiovascular Surgery in 1987, and Doctorate in Medical Science in 1999. He also pursued postgraduate studies at the University of Erlangen Nuremberg, Germany, in 1984. Eventually, he was appointed as a Professor at the Faculty of Medicine, Universitas Airlangga, due to his dedication to the field of Medicine, particularly at Universitas Airlangga. He provides medical services related to Thoracic and Cardiovascular Surgery, including thoracic and cardiovascular surgery, aneurysm operations, deep vein thrombosis, cardioversion, and several other related procedures.

Andre Young serves as a Student Organization Advisor, guiding students in their organizational responsibilities and ensuring the smooth operation of student organizations at the Faculty of Medicine, Widya Mandala Catholic University Surabaya. is a medical student at the Faculty of Medicine, Widya Mandala Catholic University Surabaya. He is dedicated to

advancing his medical knowledge and skills, actively participating in various academic and clinical activities.

Kevin Samsudin is a dedicated medical professional specializing in Surgery and Anesthesia. He is currently a student at the Faculty of Medicine, Widya Mandala Catholic University Surabaya. Kevin is actively involved in various research projects and has contributed to several academic publications. His commitment to advancing medical knowledge and improving patient care is evident through his academic and clinical endeavors.

Yovita Vivi Megasari is a passionate medical professional specializing in Physiology and Histology. She is currently a student at the Faculty of Medicine, Widya Mandala Catholic University Surabaya. Yovita is engaged in multiple research initiatives and has a keen interest in understanding the complexities of human physiology and histology. Her dedication to the field is reflected in her active participation in academic and research activities.

Agustinus Bimo Gumelar is a lecturer at the Engineering Faculty of Widya Mandala Catholic University Surabaya. He obtained his Bachelor's degree in Industrial Engineering in 2004 and his Master's degree in Electrical Engineering in 2010 from the Institut Teknologi Sepuluh Nopember Surabaya. He is currently pursuing a Doctorate in Electrical and Intelligent Informatics at the same university.

Ageng Salmanarrizqie is a promising young scholar set to graduate in 2024 from Dr. Soetomo University Surabaya. With a keen interest in advancing knowledge and expertise in his field, he is dedicated to his academic journey. Currently, he is actively contributing to various research initiatives and professional development activities.