

## Yulia Treister-Goltzman, Yan Press and Roni Peleg\*

Department of Family Medicine and Siaal Research Center for Family Practice and Primary Care, Faculty of Health Sciences, Ben-Gurion University of the Negev, POB 653, 84105, Beer-Sheva, Israel

**Received:** 20 November, 2019

**Accepted:** 09 December, 2019

**Published:** 10 December, 2019

\***Corresponding author:** Roni Peleg, Department of Family Medicine, Faculty of Health Sciences, Ben-Gurion University of the Negev, POB 653, 84105, Beer-Sheva, Israel, Tel: 972-8-6477432; Fax: 972-8-6477636; E-mail: [pelegr@bgu.ac.il](mailto:pelegr@bgu.ac.il)

**Keywords:** Chronic itching; Pruritus; Organic foreign body

**ORCID:** <https://orcid.org/0000-0002-4855-2141>

<https://www.peertechz.com>



## Case Report

# An association between an organic foreign body and persisting itching-A case report

## Abstract

**Background:** To our knowledge there has been no previous report in the literature of persistent diffuse itching caused by an organic foreign body.

**Case presentation:** The patient, 81-year-old woman, had suffered over the previous six months from diffuse itching of the scalp, the chest, and the abdomen. Her multiple chronic diseases and extensive laboratory tests didn't explain the itching. The itching was accompanied by the appearance of red blotches on the skin. When a repeat history was taken the patient related that she had fallen in an open field six months earlier and felt a stabbing sensation in her lower abdomen. A repeat examination revealed a small lesion on the skin about 4cm below the umbilicus. Beneath the skin lesion a fluid collection that was sensitive to touch could be palpated. The collection was drained and the splinter removed, the patient reported significant improvement in the itching, which almost completely disappeared without a need for medication.

**Conclusion:** The itching began soon after the patient fell and the splinter penetrated the abdominal wall tissue and only stopped after the splinter was removed. This leads us to assume that the organic foreign body was the cause of the persistent itching. As in many other cases a good history and careful physical examination can lead to the solution of a perplexing medical diagnostic problem.

## Introduction

Itching is brought about by activation of sensory nerves, causing an unpleasant sensation that leads to the urge to scratch or rub the skin. In general, there are four types of itch: 1) pruritospective that stems from skin diseases, 2) neuropathic that is caused by an insult to nerve conduction and is usually not diffuse except in the case of multiple sclerosis, 3) neurogenic that stems from central mechanisms such as opioid drugs, and 4) psychogenic [1].

To our knowledge there has been no previous report in the literature of persistent diffuse itching caused by an organic foreign body. We describe the case of a patient who suffered from persistent itching as a result of an organic foreign body. The itching ceased when the foreign body was removed.

## Case Description

The patient was an 81-year-old woman with arterial hypertension, type 2 diabetes mellitus, atrial fibrillation, ischemic heart disease, congestive heart failure, chronic renal failure and obesity. She was treated with Repaglinidine

0.5mg/day, Hypothiazide 12.5mg/day, Sitagliptin 25mg/day, Atorvastatin 20mg/day, Candesartan 16mg/day, Apixaban 5mg/day, Amiodarone 200mg/day, Furosemide 40mg/day, Bisoprolol 2/5mg/day, Levothyroxine 100mcg/day and Cholecalciferol 800IU/day.

The patient had suffered over the previous six months from diffuse itching of the scalp, the chest, and the abdomen, without itching in the extremities. The itching was accompanied by the appearance of red blotches on the skin. She was treated with Chlorpheniramine 2mg during the day and Fexofenadine 180mg in the night, together with topical Clobetasol and Betamethasone ointment, with only transient relief.

Examination of the skin showed no evidence of a primary skin disease and no evidence of fungi or scabies. The patient was negative for dermatographism. There was moderate sun damage to the face and the palms of the hands.

The patient underwent laboratory tests including a complete blood count, a chemistry panel, thyroid function, cancer markers, and an autoimmune profile. Other than signs of diabetes and renal insufficiency that were already known, no cause was found for the itching.



When a repeat history was taken the patient related that she had fallen in an open field six months earlier and felt a stabbing sensation in her lower abdomen. She hadn't mentioned this previously to any one because she didn't want to admit that she had fallen. A repeat examination revealed a small lesion on the skin about 4cm below the umbilicus. Beneath the skin lesion a fluid collection that was sensitive to touch could be palpated. Under local anesthesia with Lidocaine 1% and using a G23 needle, the sub-dermal collection was drained. Suddenly, while the collection was still draining, a 2.8cm long splinter with a thickness of 0.2mm burst out of the lesion (Figure 1). The patient could not identify the specific plant.



**Figure 1:** 2.8cm long splinter with a thickness of 0.2mm burst out of the lesion.

At a follow-up appointment four days after the collection was drained and the splinter removed, the patient reported significant improvement in the itching, which almost completely disappeared without a need for medication.

## Discussion

Pruritus is a somewhat orphan symptom since it was considered in the past as a subset of pain and elicited little research interest. While both pain and itch are induced by chemical messengers that excite unmyelinated C- fibers, the current weight of evidence supports the view that a unique subpopulation of these fibers is activated by pruritus-induced stimuli. Certain parts of the skin are highly sensitive to itch. Removing the nerve fibers in the immediate subdermal tissue of these anatomical sites will leave pain sensation intact, but eliminate the capability of responding to pruritic stimuli [2].

Pain and itching cause different reflex reactions. The response to pain is to stop the source, while itching causes an immediate scratch reflex. Opioids can relieve pain, but can cause itching, especially if administered directly to the cerebrospinal fluid. Itching is a unique skin phenomenon, while pain can also appear in other organs. Pain and itching are modulated by the

same mediators, including histamine, tissue proteases, and prostaglandins [3].

To the best of our knowledge, there has been no previous description in the literature of an organic foreign body causing diffuse itching. It has been reported previously that an organic foreign body, like a palm thorn, can cause a local inflammatory reaction that can continue even after the thorn is removed [4]. In one experiment the investigators introduced a 3mm thorn beneath the skin of a mouse. A histological examination of the involved tissue revealed a strong granulation tissue inflammatory reaction [5]. One possible explanation is that the organic foreign body exposes the tissue to toxins that cause the inflammatory reaction [6].

Organic foreign bodies are not known to cause diffuse itching. We did not succeed in identifying the plant that caused the stabbing wound and was the source of the organic foreign body in this patient. The itching began soon after she fell and the splinter penetrated the abdominal wall tissue and only stopped after the splinter was removed. This leads us to assume that the organic foreign body was the cause of the persistent itching. As in many other cases a good history and careful physical examination can lead to the solution of a perplexing medical diagnostic problem.

**Consent for publication:** Not applicable. There is no individual personal data in the manuscript. The only details are age and comorbidities: "The patient was an 81-year-old woman with arterial hypertension, type 2 diabetes mellitus, atrial fibrillation, ischemic heart disease, congestive heart failure, chronic renal failure and obesity." Sadly, the patient died few months after the time period described in the manuscript.

## References

1. Leslie TA, Greaves MW, Yosipovitch G (2015) Current topical and systemic therapies for itch. *Handbook of experimental pharmacology* 226: 337-356. [Link: http://bit.ly/2qy9vOe](http://bit.ly/2qy9vOe)
2. Mortimer PS (1995) Skin Problems in Palliative Care: Medical Aspects. In Doyle D, Hanks GWC, Macdonald N. eds. *Oxford Textbook of Palliative Medicine*. Oxford University Press 390.
3. Cohen AD, Andrews ID, Medvedovsky E, Peleg R, Vardy DA (2014) Similarities between neuropathic pruritus sites and lichen simplex chronicus sites. *Isr Med Assoc J* 16: 88-90. [Link: http://bit.ly/3543IPy](http://bit.ly/3543IPy)
4. Press Y, Peleg R (2016) Earlobe Inflammation from a Palm Thorn Injury. *Am J Trop Med Hyg* 94: 1182-1183. [Link: http://bit.ly/2P3UFsr](http://bit.ly/2P3UFsr)
5. Sperber AD, Nyska M, Howard CB, Nyska A, Dekel S (1990) Date palm thorn injury-an animal model. *Isr J Med Sci* 26: 58-60. [Link: http://bit.ly/2LD9W13](http://bit.ly/2LD9W13)
6. Peleg R, Greenberg D (2005) Palm tree thorn injuries- a case series of ambulatory patterns. *J Musculoskeletal Pain* 13: 49-52. [Link: http://bit.ly/2Pqys6P](http://bit.ly/2Pqys6P)