

Acute irritant contact dermatitis caused by *Plantago major*

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Plantago major, also known as plantain, is a weed found in temperate zones worldwide. *P. major* leaves have been associated with various biological properties ranging from anti-inflammatory, antimicrobial, and anti-tumour to wound healing (1).

Acute irritant contact dermatitis is the most frequent type of plant-related dermatitis, but as reactions of this type have not previously been recorded in the literature from *P. major*, we present two cases here.

Case 1

A 36-year-old man presented with erosions and blisters on his left leg. One year previously, he had had an



Fig. 1. Clinical appearance of case 1.



Fig. 2. *Plantago major* Linné subspecies *intermedia* (Gilib.) Lange used by case 1.



Fig. 3. Clinical appearance of case 2.

orthopaedic operation following which he developed pain and an ulcer. Two days before presentation, he had applied *P. major* on his left leg and covered it with a cloth to utilize the plant's alleged analgesic and wound healing properties. After 12 hr, he removed the leaves because he had

developed a burning pain on the skin of his left leg; lesions appeared 1 day later.

On examination, we observed erythema, oedema, erosions, and bullae formation on his left leg where the plant had been applied (Fig. 1). The patient was diagnosed with an acute

irritant contact dermatitis caused by the plant (Fig. 2). With appropriate topical and systemic treatment, there was considerable clinical improvement after a week.

Case 2

A 45-year-old woman was seen with burning erythema and superficial necrotic lesions on her feet. She had applied *P. major* for foot pain and covered the leaves with a cloth. After 6 hr, she removed the leaves because of localized burning at their site of application.

Examination showed erythema, oedema, and superficial necrotic lesions on her feet where the plant had been applied (Fig. 3). She was diagnosed as having acute irritant contact dermatitis caused by the plant (Fig. 4). With appropriate topical and systemic treatment, there was considerable clinical improvement after 2 weeks.

Both of our patients confirmed that they had applied *P. major* only once and had not exposed to the sun after the application of the leaves. There had been no reapplication of the leaves or use any other topical preparations.

The plants applied from our patients were confidently identified by a botanist. Our patients had applied different subspecies of *P. major*. Our first case had applied *P. major* Linné subspecies *intermedia* (Gilib.) Lange, and the other case had applied *P. major* Linné subspecies *major*.

Discussion

Virtually, all cultures, including Turkey, have relied on, or continue to rely on, medicinal plants for primary health care (2). The range of adverse effects to such materials varies from irritant to allergic to photo or granulomas (3).

Plantago major has been used as a wound healing remedy for a long time in many parts of the world, and it has also been used in the treatment of other conditions. It contains biologically active compounds including caffeic acid derivatives, flavonoids, glycosides, alkaloids, and terpenoids; extracts are alleged to have a number of biological activities including wound healing activity and anti-inflammatory, analgesic, antioxidant, weak antibiotic, and



Fig. 4. *Plantago major* Linné subspecies *major* was used by case 2.

immunomodulating properties. The use of this plant in folk medicine may be based on some of these effects (4). Also, *P. major* has been used in the treatment of leishmanial ulcers caused by *Leishmania* (*Viannia*) *braziliensis* (5).

Our patients applied *P. major* for its claimed analgesic and healing properties. To our knowledge, these are the first case reports of acute irritant contact dermatitis caused by *P. major* in the literature.

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