

## Delusional parasitosis mimicking cutaneous infestation in elderly patients

### Clinical records

#### Patient 1

An 88-year-old man gave a 12-month history of seeing insects attacking his legs and crawling along the floor of his house. He described these insects as 4 cm long, black and white bugs with beaks, which pecked at his legs, causing wounds. He often felt a sharp stinging sensation heralding their presence. He also had burning pain in both legs below the knees. He had had his house fumigated twice in the previous year and put various chemicals across his doorways and bed to ward off the bugs. He described no other hallucinations or delusions.

He was not using any regular medications and had never been a consumer of alcohol. He lived alone and managed all activities of daily living independently. His home was clean, and he had no pets.

Score on Folstein Mini Mental State Examination was 28/30.

Neurological examination revealed signs of peripheral neuropathy of the lower limbs. His visual acuity was poor. During the examination, he pointed to several "bugs" on his legs, which were actually pieces of skin peeling from superficial ulcers.

Nerve conduction studies confirmed peripheral neuropathy. Computed tomography and magnetic resonance imaging of the brain showed ischaemic changes. Magnetic resonance angiography showed severe stenosis of the left internal carotid artery. Septic screen and serological tests for syphilis gave negative results.

The patient's symptoms were thought to be due to neuropathic pain. He was prescribed carbamazepine (100 mg twice daily) to alleviate the sensory stimuli, and risperidone (0.5 mg in the morning, 1 mg at night). After 2 weeks, the pain and delusions had decreased substantially.

*Diagnosis:* Delusional parasitosis associated with medical conditions — neuropathy and poor visual acuity.

#### Patient 2

A 72-year-old woman had a 20-year history of the delusion of worms crawling throughout her body, especially around a scar on her hip. She was convinced that the scar should be surgically explored.

Past medical history included type 2 diabetes mellitus, normal pressure hydrocephalus with shunt insertion, ischaemic heart disease and fractured right neck of femur. She lived in a hostel. Her cognition was normal, and clinical examination found no abnormalities.

She was treated briefly with thioridazine (40 mg daily), which provided some benefit but caused drowsiness. She was then treated with pimozide (2 mg twice daily), which was changed to olanzapine (2.5 mg in the morning, 5 mg at night) because of continuing agitation, paranoid ideation about her neighbours and "intruders", and aggression to neighbours and hostel staff. Her symptoms decreased but did not resolve, and compliance was poor.

*Diagnosis:* Paranoid schizophrenia with major psychotic symptom related to infestation.

#### Patient 3

An 81-year-old woman was referred with a persistent belief that she had scabies and lice infestation of her eyes, nose, arms and anus. This resulted in her persistently washing her clothes and herself and reporting the retirement village where she lived to the Health Department. She had received anti-scabies treatment empirically.

She had a long history of severe depression after the death of her husband, for which she took doxepin. She had paranoid ideation about her neighbours and saw things crawling down the walls, and had moved residences several times to avoid these problems.

Other medical problems included treated hyperthyroidism, oesophageal stricture and partial pneumonectomy. She did not drink alcohol. Score on Folstein Mini Mental State Examination was 28/30.

She was prescribed haloperidol (0.5 mg twice daily) and continued taking doxepin. The delusions of scabies subsided.

Four years later, she developed new thoughts that dirt was being deposited in her unit by builders working nearby. She had stopped taking haloperidol in the interim. She became agitated, covering her furniture and closing all gaps around doors and windows. She was prescribed olanzapine (2.5 mg at night).

*Diagnosis:* Delusional parasitosis in conjunction with depressive illness.

#### Patient 4

A 74-year-old woman was referred for assessment of tactile hallucinations. She had a 2-month history of presumed worm infestation and persistent complaints of anal and vaginal pruritus despite multiple courses of an anthelmintic. She had complained previously of feeling head and body lice.

Her past medical history included chronic airways limitation, trigeminal neuralgia, which was treated with sodium valproate, and temporal arteritis, which had responded previously to corticosteroid therapy. She lived alone and was previously active, but had become depressed and isolated because of these delusions.

No abnormalities were found on physical examination. Examination of a skin specimen, which the patient thought contained worms, showed cotton threads. Full blood count was normal, with no eosinophilia and normal erythrocyte sedimentation rate. Sigmoidoscopy found no abnormalities, while computed tomography of the head showed a previous left parietal infarct.

She was prescribed pimozide (2 mg daily), with complete resolution of the worm sensation.

*Diagnosis:* Isolated delusional parasitosis.

AN OLDER PERSON requesting treatment for an infestation may not seem unusual. However, when the complaint persists despite repeated treatments for lice, scabies and other parasites, and examination shows no evidence of an infestation, the differential diagnosis includes delusional parasitosis. Management of this condition is challenging but rewarding, as it may cause severe emotional, social and physical disability in both the afflicted individuals and those around them. We describe four patients with delusional

parasitosis who were managed in our department of geriatric medicine (Box).

Delusional parasitosis, named in 1946,<sup>1</sup> is a chronic psychiatric disorder in which patients have a false and fixed belief that they are infested by parasites. It is not a phobia.<sup>2</sup> The core of the disease is the delusion of infestation and, although it is a psychiatric disorder, patients usually seek help from dermatologists. Its onset is insidious, and the delusion is typically preceded by a primary tactile experi-

ence, such as pruritus or paraesthesia, or tactile hallucination, which precipitates the secondary delusion of infestation.

The condition may occur as an isolated thought disorder in a person whose psyche is otherwise intact, as illustrated by Patient 4. This has also been termed monosymptomatic hypochondriacal psychosis<sup>3</sup> and “primary” delusional parasitosis.<sup>4</sup> When associated with a psychiatric condition, such as schizophrenia (Patient 2) or depression (Patient 3), delusional parasitosis has been termed “secondary functional”, and, when caused by a medical illness (eg, diabetes, malignancy or nutritional deficiency), medication or substance misuse, it has been termed “secondary organic”<sup>5</sup> (Patient 1). In the classification system of the *Diagnostic and statistical manual of mental disorders* (DSM-IV), primary delusional parasitosis corresponds to “delusional disorder, somatic type”, while the secondary organic type corresponds to “psychotic disorder due to general medical condition”.<sup>6</sup>

The prevalence of delusional parasitosis is unknown, but our literature review identified several hundred cases reported by dermatologists and entomologists.<sup>2,3,5,7,8</sup> It can occur at any age, the average being in the fifth decade. In the older age group, women are more often affected than men.<sup>2,7</sup> Mean duration of symptoms before attending tertiary care was 1.3 years in one study.<sup>8</sup> Patients with no precipitating medical problems or psychiatric illness often have a personality disorder and isolate themselves, but function well in other aspects of their day-to-day living.<sup>3</sup>

Patients provide incredibly detailed descriptions of the “bugs” and explanations about why they are not visible on examination. They often bring in “specimens” in a small container, which are actually pieces of skin, lint or hair (“the matchbox sign”), or may identify “bugs” during examination by probing into skin until they are able to pick up a small piece of tissue. This may produce traumatic ulcers of varying size, typically on areas the patient can reach, in an asymmetrical distribution corresponding to the dominant hand. Secondary dermatitis may develop as a result of repeated washing and application of chemical preparations.<sup>2</sup>

Management involves first excluding a real infestation and any underlying condition, including psychiatric disorders, medical conditions with altered sensation, use of drugs (prescribed and illicit) or withdrawal from alcohol or cocaine. Mental state, including cognition, needs to be assessed. Other investigations may include examination of skin scrapings and skin biopsies.

In therapy, the most important step is to establish a trusting doctor–patient relationship. An empathic approach is required, acknowledging the reality of patients’ symptoms without challenging or confirming their views about the cause. Samples of any alleged parasites presented must be examined.

Ideally, patients should be referred to a psychiatrist, but many resist this. Consequently, medication with an antipsychotic should be initiated by the doctor who makes the diagnosis. Treatments include pimozide<sup>2,3,5,7</sup> and the newer atypical antipsychotics, such as risperidone.<sup>9</sup> Medication compliance can be a problem. There have been some

### Lessons from practice

- Delusions of parasitosis may occur alone or in association with medical or psychiatric illness.
- Antipsychotic agents are the mainstay of medical management.
- Empathy and a good doctor–patient relationship are required to optimise outcome.

reports that tricyclic antidepressants and anxiolytic agents alleviate the reactive component of the condition without much effect on the delusions.<sup>2,7</sup> Doxepin has strong antihistamine and anxiolytic effects, in addition to its antidepressant effect, and, based on its effectiveness in chronic neurotic excoriation,<sup>10</sup> may be useful in patients who frequently experience intense pruritus, anxiety and agitation as well as depressive symptoms. Corticosteroid creams and lotions may be helpful adjuncts to alleviate skin symptoms.

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