Ekbom syndrome, also called delusional parasitosis, is a psychiatric disorder characterized by the patient’s conviction that he or she is infested with parasites. Patients with Ekbom syndrome usually seek care from family physicians. We report a case in which the diagnosis of Ekbom syndrome was delayed owing to the presence of bits of spiders in the first sample the patient provided of the insects she believed had infested her and her apartment.

**Case description**

A 66-year-old female patient consulted the emergency unit of our hospital for bug infestation of herself and her apartment. She complained of generalized chronic pruritus and prurigo. She had moved to another apartment in the previous weeks, but the infestation persisted. She then lived in an apartment with no pets, and her neighbours did not complain about the presence of bugs. The patient was divorced, retired, and lived alone. There was nothing remarkable in her medical history. She did not take any medication, and there was no history of travel, allergies, or hygienic troubles. She spent her days cleaning and vacuuming her apartment. She reported that she had changed her mattress 3 times in the past 3 months and had been forced to buy new clothes because the insects ate her old ones. She believed her pruritus could be linked to either scabies, which was diagnosed in her son 2 years before, or to her regular swims in a lake where ducks were seen.

The scratching marks were purplish-blue, rounded, and raw lesions. They were not consistent with infestation with *Pediculus humanus corporis* or *Sarcoptes scabiei*. Clinical examination findings were otherwise normal.

Blood analysis showed no iron deficiency, renal deficiency, cholestasis, or biologic inflammatory syndrome. A slightly increased thyroid-stimulating hormone level was found and handled by her general practitioner.

As the patient was in good general condition, she was sent back home without any treatment or any other clinical evaluation. The sample of insects she brought in was sent to the Parasitology Department of our hospital for entomologic identification. Based on microscopic features, the analysis identified common environmental spiders. The bits of spiders that were obtained, thorax and legs separated (Figures 1 and 2), did not allow a species identification.

Shortly after, the emergency physicians informed the patient of the results and suggested further counseling from the Parasitology Department. Thus, the patient contacted the laboratory via telephone for a consultation to help her get rid of the spiders. She reported an aggravation of the infestation. The patient claimed she had a full collection of bugs in her possession and she would bring it in for analysis. She complained about the total insufficiency of all mechanical and chemical treatments she had tried.

On the day of the appointment, the patient was in good physical health, apart from several scratching lesions localized mostly on her arms, ankles, and scalp. The sample she brought was mainly debris (textile, bits of food, dust, grains, mud, etc), and, following rigorous macroscopic and microscopic analysis, there were no insects detected. She explained that she had extracted the parasites herself from her skin; that she had found some in her stools and in her sputum; and that the taste of her blood had changed because of the infestation. She had applied repeated insecticide treatments on her body and her scalp. She had used vinegar to rinse her mouth in order to “spit insects” and to wash her cutaneous lesions. She reported that insects attacked her when she was reading at night.

For 3 months, she consulted several physicians: an emergency physician, a dermatologist, a veterinarian, a general practitioner, and a parasitologist. Neither an infectious nor an organic disease was diagnosed. The patient was not afraid, but rather obsessed by the presence of bugs in her body.

Her inability to prove the reality of the presence of insects made her slightly paranoid, and she became anxious and confused. The patient did not accept the fact that there were no insects present in her samples, and she categorically refused the suggestion of consulting a psychiatrist to help her. Considering the cutaneous lesions and the risk of infection due to the use of vinegar on the wounds, she eventually agreed to see her dermatologist for new advice and further care.
In this case, a psychiatric disorder was suspected in the patient’s first visit to the emergency unit (and also by the general practitioner), but an organic cause had to be excluded.

First, the emergency physicians eliminated common organic causes of pruritus and prurigo: external causes, such as scabies and Pediculus species, and internal causes, such as renal deficiency, iron deficiency, endocrinopathy, cholestasis, and hemopathy. Then a careful interrogation was made to check for medical history, treatments, travel, pets, and exposure to contagious disease.

Given the presence of bits of spiders in the first sample, we investigated the possibility of a real spider infestation. Indeed, the source of the spiders could have been plants that the patient moved from one location to another; however, the elimination of plants did not stop the patient’s complaints. Spiders have never been reported to infest human beings.

Second, we considered the fact that she was swimming regularly in a lake where ducks lived. Summer itch due to Trichobilharzia ocellata was previously reported in this area. However, in this case, the winter season ruled out the presence of cercariae in the lake. Rhinonyssus rhinolethrum (Acari [subclass]; Mesostigmata [order]) mites can lodge in the nasal cavities of birds, but none was found among the sample (ie, the debris) the patient brought for analysis.

Finally, we established the diagnosis of Ekbom syndrome. Almost all of the typical characteristics described in Ekbom syndrome were present for this patient: older age, loneliness, personal problems, the “matchbox” sign (ie, bringing the proof of the infestation in small boxes), absence of psychiatric history, previous cutaneous disease in her family, and endocrinopathy. Ekbom syndrome is an alternative diagnosis for ectoparasitosis as well as chronic pruritus and prurigo.

To treat Ekbom syndrome, psychotherapy support is of course needed, but the most difficult part is convincing the patient of the absence of parasites and obtaining his or her agreement to see a psychiatrist. The cause of this syndrome is not fully understood: it can be due to hallucinations or false interpretation of itching perceptions. Antipsychotic drugs lead to improvement; pimozide was recommended as the drug of choice but atypical antipsychotics, such as risperidone, have also been prescribed because of a better side-effect profile. Full remission is obtained in only half of the cases with antipsychotic treatment. A recent publication described a case in which antihelminthics were tried but were not helpful.

These patients seek advice from multiple practitioners and consequently various specialties are often involved. This is, in our opinion, an opportunity to establish a multidisciplinary collaboration, which is probably the best way to ensure the well-being of the patient whose management remains complex and unclear. In this patient’s case, for example, the parasitologist checked the absence of parasites; the emergency physicians found the thyroid disorder; the dermatologist prescribed protective creams for the scalp lesions; and, finally, the family physician observed that the patient was obsessed with mites.

One year after her first visit, the patient felt better because she used furniture covering for protection.
against mites. Consultation with a psychiatrist would have been helpful, but this was not organized because of the patient’s refusal.

**Conclusion**

We suspect the patient’s condition was exacerbated between the first visit to the emergency unit and the meeting at our laboratory. This worsening could be the consequence of the presence of bits of spiders in the first sample, as this reinforced the patient’s conviction. This illustrates the caution needed in handling these situations in order not to encourage the infestation conviction while supporting the patient who tends to feel misunderstood and alone. Because these patients consult a variety of clinicians, there is an opportunity to establish a multidisciplinary collaboration.

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**Competing interests**

None declared

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