

Delusional Infestation and Dementia: A Case Report

The case of an 82-year-old woman with delusional infestation and senile dementia of the Alzheimer type is reported. Her symptoms of infestation ceased dramatically with pimozide given for 5 weeks, and did not recur during follow-up over 9 months. The importance of organic factors in patients with this disorder is emphasised.

The syndrome of delusional infestation is a clinical state in which the patient has the unshakeable false belief that her skin is infested with live organisms. The condition has been variously described in the English literature under the names acarophobia, delusion of parasitosis, parasitophobia, dermatophobia and Ekblom's syndrome (Skott, 1975; Berrios, 1985), but we suggest that the term 'syndrome of delusional infestation' is a more accurate description and will be used here.

The syndrome was first described by the French dermatologist Thibierge in 1894 and is well known to dermatologists (Lyell, 1983) but less so to psychiatrists. The typical patient is a woman in late middle age who presents to a dermatologist complaining of cutaneous sensations which are delusionally attributed by her to a skin infestation with creatures such as lice, worms, maggots, fleas, bacteria and fungi. As proof of the infestation she may bring along an envelope containing the alleged organisms, which usually turn out to consist only of skin debris. The dermatologist is unable to find any evidence of infestation, and often the skin of the patient looks normal. However delusional infestation can occasionally be superimposed on a pre-existing skin disorder (Wilson & Miller, 1946; Wilson, 1952; Tullett, 1965; Hopkinson, 1970), follow on from a previous skin infection (Wilson & Miller, 1946; Hopkinson, 1973), or be associated with self-induced dermatoses resulting from attempts to remove the organisms with instruments or chemicals (Klauder, 1936; Wilson & Miller, 1946; Wilson, 1952; Obermayer, 1961; Tullett, 1965; Paulson & Petrus, 1969). The patient holds her conviction with absolute certainty and cannot be persuaded otherwise; any suggestion of referral to a psychiatrist usually meets with a flat refusal. She may go to extraordinary lengths to get rid of the creatures: fumigation of clothing, bedding and furniture may be demanded, and pest control officers (Edwards, 1977) and public health officials (Schrut & Waldron, 1963) consulted. These patients are very difficult to treat, but useful management guidelines have been provided by Gould & Gragg (1976).

The causes of delusional infestation are multiple; in this paper we wish to draw particular attention to the potential role of organic cerebral factors in the aetiology of this syndrome by describing the unusual case of delusional infestation occurring in a woman with dementia.

Case report

The patient is an 82-year-old married childless woman with no previous history of physical or psychiatric illness or family history of dementia. Her husband had noticed early signs of memory impairment and loss of domestic efficiency in his wife over the previous 6 months with an exaggeration of her premorbid personality traits of suspiciousness and possessiveness, but she had shown no evidence of delusional ideation or depression of mood. She was initially seen at home at the request of her general practitioner because of her complaint of skin infestation of 1 month's duration. She claimed that unseen flying insects had been settling on her face at night when she was in bed, and had laid their eggs in her skin and hair. The eggs had hatched and she could feel insects crawling in her skin. She wrapped her head and face in a silk turban at night and washed her hair regularly with vinegar to deter the insects. She spent many hours during the day in front of a magnifying mirror picking at her face with a pin to remove the eggs; periodically she would hold up the pin in triumph and coerce her husband into agreeing that he could see an egg impaled on the end. Her husband was also forced by her to arrange for a pest control officer to spray their bedroom with insecticide. However at no time did her husband believe that his wife was infested. Her general practitioner found no evidence of skin infestation on physical examination and treatment with chlorpromazine 50 mg *t.i.d.* failed to dislodge her delusion.

Mental state examination revealed an elderly slightly suspicious woman with excoriations on her nose and left cheek. She showed no depression of mood, hallucinations or delusions other than those concerning the insects. However she was disorientated in time and had evidence of both short- and long-term memory impairment, scoring only 18 out of 34 points on Hodkinson's Mental Test (1973). Her delusional system was well organised and she lacked insight into her illness, believing that she needed treatment from a dermatologist rather than psychiatric help.

A provisional diagnosis of delusional infestation associated with a possible dementing illness was made and pimozide at a dose of 8 mg daily prescribed. She responded very well

to this treatment at home and her delusions completely resolved within a few days. However the drug was stopped after 5 weeks when she showed extrapyramidal side-effects. Physical examination and laboratory and radiological investigations to rule out systemic disease and secondary forms of dementia were normal; an EEG showed a bilateral excess of slower components and a CT brain scan revealed slight ventricular dilatation and cerebral atrophy. There has been a continual decline in her memory, intellect and personality over the ensuing 9 months in keeping with a clinical diagnosis of senile dementia of the Alzheimer type, and she has been regularly admitted to hospital during this period to give her husband some respite. However her symptoms of infestation have not recurred despite the discontinuation of pimozide.

Discussion

Before a diagnosis of delusional infestation is made, it is necessary to ensure that the patient is not actually infested. However as Champion (1983) points out, this is far from simple as scabies and other mite infestations can be easily overlooked, and a thorough physical examination is essential.

Most patients who present with a delusion of infestation are suffering from either a psychiatric illness or an organic disorder; in a small minority, there may be an interplay of both pathologies, or the organic factor may be entirely coincidental.

Delusional infestation occurs most commonly in the context of monosymptomatic hypochondriacal psychosis (MHP), a psychiatric illness characterised by a fixed, usually bizarre, solitary delusional belief of bodily disease or abnormality, which is unaccompanied by disintegration of personality, delusional elaboration or psychotic deterioration (Reilly, 1977; Munro, 1978, 1980). Delusional infestation may also arise in the course of an affective or schizophrenic illness (Wilson & Miller, 1946; Hopkinson, 1970, 1973) when it is accompanied by other relevant psychiatric symptoms, and also in folie à deux (Macnamara, 1928; Partridge, 1950; Wilson, 1952; Paulson & Petrus, 1969; Hopkinson, 1970, 1973; Evans & Merskey, 1972; Mester, 1975).

A clinical picture resembling delusional infestation has been reported in toxic and metabolic disorders such as delirium tremens (Lishman, 1978), cocaine psychosis (Tullett, 1965), amphetamine abuse (Skott, 1975), pellagra (Aleshire, 1954; Fish, 1967), and vitamin B12 deficiency (Pope, 1970), in which pathological cutaneous sensations may be experienced.

Ladee (1966) has reviewed the earlier evidence implicating the role of cerebral-organic factors in the aetiology of some cases of delusional infestation. The syndrome has been observed in patients with cortical and subcortical atrophy who show no intellectual

impairment (Campanella, 1969; Schott *et al*, 1973; Heim & Morgner, 1980; Ungvári & Pethö, 1980; Sone, 1983), and in patients with brain tumours (Liebaldt & Klages, 1961; Miller-Kreuser, 1962; Ungvári & Pethö, 1980), alcoholic encephalopathy (Ungvári, 1984) and cerebral infarction (Valbuena Briones *et al*, 1984). Previous cases of delusional infestation associated with dementia have also been described by Wieser & Kayser (1966), Bauer & Mosler (1970) and Ganner & Lorenzi (1975).

The delusion of infestation in our patient, unlike most delusions in dementia, was fixed and well-systematised. Ekbohm's (1938) suggestion that the delusion has its origin in true cutaneous sensations which are misinterpreted and not hallucinatory experiences, may be relevant in some cases with an organic aetiology; the abnormal skin sensations of senile pruritus may act as a fertile focus for the development of delusional infestation in the elderly, especially in those with cognitive impairment. Other systemic conditions to exclude in this age group include liver and renal disease, lymphomas, polycythaemia, iron deficiency, thyroid disease, carcinoma and drug reactions, all of which can cause a generalised pruritus without skin lesions (Champion, 1983).

Some workers (Riding & Munro, 1975; Munro, 1978; Reilly *et al*, 1978) have found pimozide to be particularly useful in the treatment of MHP patients with delusions of infestation, although its efficacy in other forms of the syndrome remains debatable. However, our patient's delusion resolved much too quickly for the improvement to be coincidental and suggests a specific beneficial effect of pimozide.

In conclusion, this case illustrates that delusional infestation, especially when it occurs in the elderly, may be symptomatic of an underlying organic disorder.

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