A Literature Review of Senile Pruritus: From Diagnosis to Treatment

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Pruritus occurs frequently in the elderly population, but it has not been fully defined and its precise prevalence is unknown. Putative causes of pruritus are numerous and patients' quality of life can be greatly reduced. In the absence of any specific cause, a diagnosis of senile pruritus is proposed, suggesting that itch is secondary to ageing. However, the relationship of pruritus with skin ageing and/or neuronal ageing and/or immune ageing is poorly understood. Many treatments have been reported, but are poorly effective. This paper reviews the literature on senile pruritus, in order to improve understanding of this condition and to enable improved diagnosis and treatment.

Key words: senile; elderly; itch; pruritus.

Accepted Nov 10, 2016; Epub ahead of print Nov 14, 2016

Acta Derm Venereol 2017; 97: 433–440.

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Pruritus is an unpleasant sensation associated with the need to scratch (1). It can be distinguished as acute or chronic, with the latter defined as pruritus lasting 6 or more weeks (2). The International Forum for the Study of Itch (IFSI) proposed a classification system for chronic pruritus into 3 groups: group I, pruritus on diseased skin; group II, pruritus on non-diseased skin; group III, pruritus presenting with severe chronic secondary scratch lesions. The IFSI also specified the following 6 categories of underlying pruritogenic diseases: dermatological, systemic, neurological, psychogenic/psychosomatic, mixed, and other. The category "other" is also called "pruritus of undetermined origin" (PUO) (2).

WHO defines elderly people as those aged ≥60 years (3). In clinical research, this population is traditionally defined as people aged 65 years and over (4–8). However, in France, medical practice on a geriatric ward defines the threshold of old age as 75 years and older (*Institut National de la Statistique et des Études Économiques*; INSEE). The WHO predicts that the global population of those aged 60 years and older will reach 1.7 billion by 2050 (9).

Elderly people often report pruritus; it is the most common complaint among patients during a dermatological consultation (4, 10). Pruritus in elderly people can be defined as chronic pruritus in a person over 65 years old (11). Determining the aetiology is the first step in providing support. However, sometimes no underlying cause is found.

Senile pruritus can be defined as a chronic itch in a person aged 65 years or older, with no aetiology determined by an appropriate examination and check-up (6), although a clear and consensual definition is lacking. It is a diagnosis of exclusion. The pathophysiology of senile pruritus is unknown, but the senile character suggests a role for skin ageing (12). Research into senile pruritus is necessary to help elderly people. Finding an appropriate treatment for senile pruritus is a priority that will be achieved only through a thorough understanding of the underlying cause.

The aim of this paper is to review the literature on senile pruritus, in order to provide physicians with a better understanding of this condition and to enable improved diagnosis and treatment.

METHODS

Medline and Cochrane databases where searched, using the following combinations of Medical Subject Headings (MESH): "senile pruritus" OR "elderly pruritus" OR "elderly" AND "idiopathic pruritus". The search was limited to human data and English, French or Spanish language articles on patients older than 65 years. No date limits were used for the search. A total of 2,451 articles were found in Medline and 147 articles in the Cochrane databases; in all 2,598 references. After removing duplicates, 2,582 references remained. Of these, 2,525 were excluded after

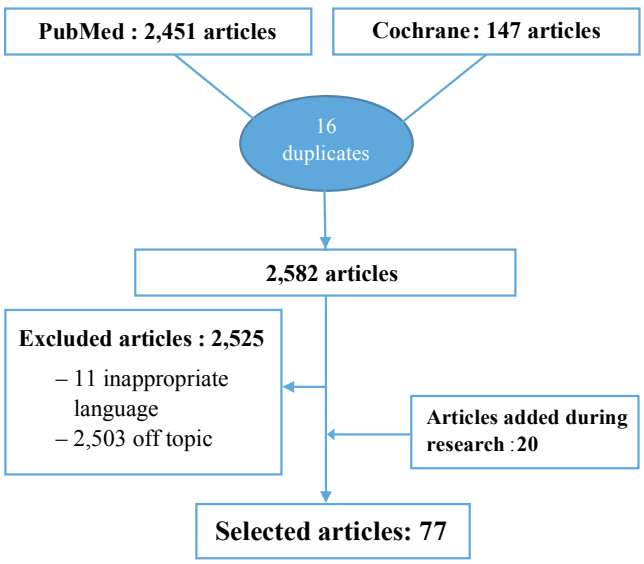

Fig. 1. Study selection process.

doi: 10.2340/00015555-2574
Acta Derm Venereol 2017; 97: 433–440

reading the title and abstract. A total of 57 articles were selected, including a further 20 articles found during the search that were thought to be of interest to the study (**Fig. 1**).

PRURITUS IN ELDERLY PEOPLE

Pruritus is a frequent phenomenon in elderly people (4). However, its prevalence and characteristics are not precisely defined. To determine the aetiology of pruritus and propose a treatment, examinations are first necessary. According to the IFSI classification (2), different clinical patterns (itchy with specific skin lesions or in normal-looking skin) can be found and various underlying diseases can occur.

Prevalence

The prevalence of chronic itch in older people is unclear. A retrospective study that assessed 4,099 patients aged 65 years found that pruritus was responsible for 11.5% of admissions and was the third most common cause of hospitalization (8). In another study with 1,556 patients from nursing homes, pruritus was found in approximately two-thirds of patients (13). The high rate of admittance due to pruritus indicates the importance of this symptom in older people (4).

Worldwide, some studies found various prevalences of pruritus in elderly populations as follows: 8.8% (14) and 10.3% (15) in Turkey, 6.4% in Tunisia (16), 7.3% in Nepal (17), 9% (18) and 37.5% (19) in India, 14.2% in Taiwan (20), 18.9% in Italy (21), 22% in Iran (22), 25% in Mexico (23), 34.8% in Poland (7), and 41% in Thailand (24). In the USA, pruritus was found in one-third of elderly people in nursing homes (25) and in 40.6% of elderly African-Americans (26) in the general population.

Darjani et al. (22) showed an increase in the prevalence of pruritus with age, as follows: 20.8% in 60–69-year-olds, 22.9% in 70–79-year-olds, and 26% in 75-year-olds and older. Yalcin et al. (8) reported the same difference in prevalence depending on age in Iran. In the study by Bilgili et al. (14), the opposite trend was found; 5.4% in 65–74-year-olds and 3.4% in 75-year-olds and older.

The prevalence of itch in a study comparing elderly patients in a nursing home and a geriatric outpatient clinic did not differ significantly (23). However, there was a significant difference in the rate of hospitalization caused by pruritus between the dermatological ward and the geriatric ward (44.3% and 23.9%, respectively). These large differences are explained by selection bias and differing end-points (pruritic skin disease or itch) (27), and perhaps an influence of regional and ethnic factors (18). Further research is needed to evaluate the prevalence of pruritus in geriatric populations.

Pruritus in elderly people is usually reported more often in men (8, 14, 15, 18), but one study reported itch more frequently in women (23).

Characteristics

The characteristics of pruritus in elderly people are poorly studied in the literature, and some information is contradictory due to the same methodological limitations as in the prevalence studies. Hence, pruritus with seasonal variations, occurring more frequently in the winter (8, 23) and autumn and less frequently in the spring (8), has been described, but the impact of the season was not revealed in another study (14).

Only one study evaluated the locations of pruritus in elderly people. Even in generalized pruritus, some areas are more affected. The most common areas involved were the legs (54%), back (44%), scalp (28%), and arms (27%). In 60% of the patients, the involvement was symmetrical. Genital itch was reported in 12% of subjects (23). The majority of patients with itch reported daily pruritus (88%), which was more often a problem at night (65%) (23).

The most common symptoms associated with the itch were pain (10%), heat sensation (10%), and cold sensation (5%) (23).

Impact on quality of life

Pruritus is an unpleasant sensation, and for elderly people, an unwelcome aberration of senile skin (28). Robert Willian was one of the first to describe pruritus in elderly people as a personal infliction as follows: “so incessantly tormented with a universal itching, that they were rendered uncomfortable for the remainder of life” (6).

Quality of life is poorly studied with regard to pruritus in elderly people, but a chronic itch in this population is a common problem with a significant impact on the quality of life and sleep in elderly patients (11, 23, 29). It has been suggested that depression associated with itch could be partly related to an effect of itch on quality of sleep (30).

Pruritus is a subjective sensation, and its monitoring in studies is not easy, especially in patients with cognitive disorders. A reduction in pruritus is linked with an improvement in quality of life. A study of the efficacy of gabapentin showed a 50% decrease in pruritus and an undeniable amelioration of the quality of life (31).

Gatti & Jerri (32) explained that an image of itching could influence the perception of older persons. Itching was often observed as a sign of being “unclean”. The itching people were perceived to be a source of infection or infestation. This perception could lead to an avoidance of elderly people and an isolation that influences their quality of life. Itching became a barrier between the subject and the rest of the world.

Alterations in quality of life of elderly people could have some impact on morbidity and mortality (30). This impact needs additional studies with, for example, adap-

ted quality of life questionnaires. We did not find any representative study of quality of life in elderly people with pruritus.

Causes

According to the IFSI classification, pruritus in elderly people can be categorized into 3 different groups (2). Group I concerns patients with pruritus with pruritic skin disease. Reich et al (4) proposed a list of the most important skin diseases occurring in elderly populations. Pruritic skin diseases are the most common dermatological issues in elderly people (24). The most common pruritic disorder is xerosis (7, 13, 14, 33), which has been observed in 69% (23), 45.3% and 29.5% (34) of chronic itch in Hispanic, Turkish and Australian geriatric populations, respectively. More than 50% of elderly people have xerosis (35). For a long time xerosis was considered to be the only cause of pruritus in this population (24). Patients in group II (pruritus without primary rash) and group III (chronic scratch lesions) experience pruritus with various different aetiologies, which are frequently associated in elderly people: pruritus of mixed origin is often observed in these patients.

Yalçin et al. (8) found that 22% of underlying diseases explain pruritus. In the study by Valdez-Rodriguez et al. (23), 28% of patients had an itch-related dermatosis. The most common were: stasis dermatitis 44%, psoriasis 13%, allergic contact dermatitis 13%, and chronic lichen simplex 8%. In total, 96% of elderly people with pruritus had one or more major chronic comorbidities. The presence of comorbidities significantly increased the likelihood of chronic itch. Diabetes and chronic venous insufficiency increased the risk of chronic itch in the geriatric population (odds ratio 2.3 and 4.4, respectively) (23). An underlying systemic disease was reported in 10–50% of the patients who visited a medical doctor for pruritus (36).

Pruritus in elderly people can frequently be induced by drugs, because the high frequency of chronic diseases in this population exposes them to absorption of numerous drugs, sometimes simultaneously (4, 37). Pruritus can start with the first dose, or may be delayed for several weeks or months. The principal drugs that may be responsible for chronic pruritus have been listed by Reich et al. (4). Psychogenic pruritus, also called somatoform pruritus, is probably not so rare in elderly people (4). Diagnosis of psychogenic pruritus without an underlying psychiatric disorder is based on specific criteria (38, 39).

Check-up

A thorough medical history, physical examination, and check-up are necessary to find the underlying cause (40). A detailed history (including drugs) may provide information to make a diagnosis. Ward & Bernhard (6) proposed a list for interrogation.

The presence of primary lesions can establish the diagnosis (6). Therefore, physicians should inspect the entire skin, including the mucous membrane, scalp, hair, nails, and the anogenital region. A general physical examination plays a critical role in determining the cause with palpations of the liver, kidneys, spleen, thyroid and lymph nodes to search for an organomegaly (37, 41). Finally, if dermatological and physical examinations do not help, a check-up is necessary.

Laboratory screening depends on differential blood cell count, erythrocyte sedimentation rate, blood urea nitrogen, creatinine, alkaline phosphatase, liver enzymes, bilirubin, T3, T4, thyroid-stimulating hormone (TSH), glucose, serum ion, ferritin, hepatitis serologies, HIV serology, immunoelectrophoresis and stool parasites (37).

The screening is completed with a chest X-ray and abdominal ultrasound (37). A biopsy for histopathology could be performed if there are any non-identified skin lesions. Although unnecessary in younger patients, a skin biopsy for immunofluorescence on healthy skin could be helpful to diagnose bullous pemphigoid in the early stages (42). If necessary, a psychiatric consultation could be proposed. A solely psychological cause of pruritus should not be diagnosed without a psychiatric examination (37). The screening could be repeated every 3 or 6 months if clinical suspicion remains, especially for malignancy (36).

SENILE PRURITUS

Senile pruritus can be defined as a chronic pruritus of unknown origin in old-age individuals, (4) or an idiopathic itching of elderly people without a primary rash (43).

Prevalence and characteristics

There is no study reporting the prevalence or characteristics of senile pruritus. Because Yalcin et al. (8) found 22% of underlying diseases were responsible for pruritus, the prevalence of senile pruritus could be 78% of pruritus in the elderly population. However, this needs to be confirmed by further studies.

Diagnosis

Senile pruritus is a diagnosis of exclusion following a complete examination and check-up, as described above. The term “senile pruritus” is theoretically reserved for generalized pruritus in the absence of xerosis or other recognizable causes (6). The diagnosis is a challenge for dermatologists and non-dermatologists (5, 44).

Pathophysiological hypotheses

Pathophysiology of aged skin. Skin ageing appears to play a role in the pathophysiology of pruritus (45). Ageing is a decline in the normal functioning of all organ

systems, including the skin. Ageing is a biological reality, a complex process due to the accumulation of molecular damage over time (45). The consequences are declines in healing capacity, immune responsiveness and capacity to repair DNA. The decline in the normal physiology of the skin, age-related changes in cutaneous nerve fibres, polypharmacy, and other medical comorbidities contribute to the high rate of pruritus in elderly people (30).

Skin changes may contribute to decreased skin surface lipids and clearance of trans-epidermal materials from the dermis. Sweat and sebum production are reduced and barrier repair is diminished (46). Xerosis in elderly people arises in part due to age-dependent physiological changes in the ability of the skin to produce and retain moisture (30, 47), but it is not a normal part of ageing (48). Older adults lack fatty acids in the skin that augment hydration, which contributes to xerosis.

Stratum corneum changes. The stratum corneum consists of corneal cells and intercellular lipids, which form a watertight configuration responsible for the skin barrier. This barrier is delicate, and damage from scratching, degreasing by detergents and dermatoses can change the trans-epidermal loss of body fluids that maintain homeostasis of the skin (49). Stratum corneum lipids play a predominant role in maintaining the water barrier of the skin (50).

Elderly patients with senile pruritus have clinically drier skin than age- and sex-matched control subjects. Xerosis may be causally implicated in up to 38% of generalized pruritus (24). This xerosis is caused by a chronic skin hydration problem. Aquaphorin-3 (AQP3), a membrane channel, allows the passage of glycerol and water. AQP3 gene expression is significantly reduced in the skin of people aged 60 years and over (30). Environmental factors also influence the skin's moisture in elderly people. The epidermal barrier function is linked to skin hydration. The ageing process tends to increase epidermal surface pH, which leads to reduced activity of lipid-forming enzymes, and, therefore, a decrease in the production of ceramide in the stratum corneum. The decrease in the lipid formation capacity and fluid loss affect the epidermal barrier function and could contribute to senile pruritus. Changes in the stratum corneum and altered skin surface contour parameters suggest that senile pruritus could be associated with an acquired abnormality of keratinization. An analysis of intracorneal cohesion shows an increase that can be found in other disorders, including psoriasis, ichthyosis and atopic eczema (51).

Neural theory. (*i*) Peripheral origin: pruritus is transmitted by unmyelinated fibres. The impulse travels to the ipsilateral dorsal root ganglia before crossing to the contralateral anterolateral spinothalamic tract and being transmitted to the thalamus and internal capsule and finishing in the sensory cortex (6).

C fibres are responsible for the initial perception of pruritus in the skin, but Aδ fibres also take part in the afferent system of the itching sensation. An analysis of these fibres in people with pruritus suggested that there was a reduction in inhibition in the spinal cord. Therefore, pruritus could be caused by a probable abnormality in spinal interneurons (52).

In elderly people, pruritus may be more frequently favoured by a reduction in the itch threshold to other stimuli. A deficiency in skin hydration may be responsible for a reduction in this threshold because emollients can allow better accuracy of sensory perception in elderly people (53).

Kaposi was the first to propose a neural mechanism (6). A hypothesis to explain senile pruritus as a degenerative change in peripheral nerve endings may be attributable to age (41). It is probably a subclinical neuropathy (6).

(*ii*) Central origin: cerebral atrophy and multiple subclinical cerebral infarcts may disrupt the pruritus pathway. This age alteration can cause pruritus without specific stimuli.

Some articles have attempted to demonstrate this idea. Senile pruritus may be the consequence of central nervous system phenomena similar to those that cause phantom pain (54, 55). Phantom pain is pain in a missing extremity that is still perceived to be there by the brain. Indeed, a phantom limb can itch. Therefore, the itch sensation can be present even in the absence of skin. Itch does not always reside in the skin. Phantom sensations originate in the brain. Certain central nervous cells become more active in the absence of stimuli.

Finally, the brain loses its normal input due to age-related peripheral neural degeneration (54).

Immunological mechanisms. Elderly people have an increased risk of developing autoimmune diseases due to alterations in the immune system called immune senescence (56).

Humoral and cellular immune defects, including T and B lymphopaenia, eosinophilia and hypogammaglobulinaemia, were identified in elderly people. These defects could be considered a common variable immunodeficiency (CVID), but there was only a reduction in IgG values not associated with IgA or IgM. These findings suggest that patients woth chronic idiopathic pruritus may acquire secondary immune defects resembling CVID as a consequence of the ageing process (57).

Immune senescence has a pathological shift towards a proinflammatory phenotype with chronically elevated levels of interleukin 6 and tumour necrosis factor α (TNFα). Ageing is associated with a loss of skin homeostasis. During the ageing process, there is a thymic involution that includes a decrease in T-cell regeneration and a decrease in T-cell receptors. This decrease accompanies a reduced T-cell regulatory function (42).

Because the number of T cells is not decreased in some elderly people, it is clear that cells lose selective function capacities. The increased incidence of auto-antibodies in elderly people, such as an increase in IgG level, may

contribute to B-cell dysfunction. Macrophages are also affected by ageing, resulting in a compromise of the inductive phase of the immune response and phagocytic capabilities (58).

Clinical and experimental evidence suggests that senile pruritus may be linked to autoimmune events initiated by the loss of self-tolerance against cutaneous autoantigens, which is facilitated by the immune ageing processes.

An immunological mechanism has been proposed by Bernhard (59). Some cases of senile pruritus may be the consequence of anti-basement membrane zone antibody formation (60). Indeed, some elderly patients have generalized itch for years without blistering in connection with bullous pemphigoid (61, 62).

Bullous pemphigoid is usually a disease of elderly people, in which pruritus is a principal symptom. T-cell subsets are the central cell type in bullous pemphigoid. The time from the beginning of pruritus to clinically apparent bullous pemphigoid varies from months to years (63–66). Some mechanisms may contribute to senile pruritus. Bullous pemphigoid and the ageing process are criss-crossed (42). Cell destruction by uncontrolled scratching in reaction to itching releases a mixture of intracellular and extracellular proteins. BP230 and BP180 are part of an inflammatory environment and cause an immunological exposure to self-antigens. In elderly people with immunosenescence, this could cause a loss of self-tolerance and the induction of an IgG autoantibody specific immune response. Alternatively, anti-BP230 induced proinflammatory effects, such as granulocyte influx, could trigger pruritus. In pruritus, scratching lesions can cause the development of anti-BP180, and ultimately, bullous pemphigoid; this process is termed a spreading epitope (42, 67).

The role of histamine. Antihistamines are often the first treatment for pruritus, including senile pruritus. Although the placebo effects of these drugs can be very important (68), there is an interest in searching for a link between senile pruritus and histamine (69). A prick test with codeine and histamine under antihistamines found a significant persistence of skin reaction in elderly people with pruritus by comparison with an unaffected group (69). This suggests that patients with senile pruritus have and maintain a tendency towards mast cell degranulation. Therefore, there is an increased ability to release histamine, probably associated with other mediators escaping the antihistamine treatment. These others mediators could be targets for treatment.

Thirty-five patients with senile pruritus were treated with oxatomide and a control group treated with a placebo. The first group observed improved management of pruritus. Oxatomide is an anti-allergic agent that not competes only with histamine or serotonin, but which also inhibits the release of mediators by mast cells (70). This product is not avialable in all countries. However, some studies confirmed the non-effect of antihistamines for senile pruritus. Antihistamines are often used more for the sedative effect than the antipruritic effect.

Conclusion. Senile pruritus is due mainly to nervous deafferentiation in elderly people. Some modifications of the epidermis and the skin immune system could be also involved. Further research is needed in order to gain a real understanding of senile pruritus and consequently propose adequate treatments.

Treatment

There is no specific recommendation for the treatment of senile pruritus, and management can be a challenge (37). All treatments in elderly patients should be used with caution due to altered metabolism and the possibility of higher toxicity compared with younger people.

A 1993 study (5) of the management of senile pruritus by senior dermatologists reported typical treatments. These physicians thought xerosis was the most common cause of itching in elderly people. Therefore, the first treatment proposed was an emollient, sometimes including menthol, phenol or camphor. The second reported treatment was a topical corticosteroid. This study showed many propositions by physicians to treat pruritus, but none was really effective. Therapeutic education accompanied this treatment, especially regarding bathing conditions (47). Physicians also described any "tricks" or unconventional therapies if the first line of therapy did not produce a response (5). These included treatments such as aloe juice, autohemotherapy, ocean bathing, psychotherapy and vitamins. A psychosocial approach seemed to be important, with active lifestyle, exercise and personal development. This article illustrated the fact that there was no specific therapeutic approach. Dermatologists therefore need further information about the treatment of senile pruritus (5).

Each patient with senile pruritus needs a personalized approach to management, taking into account their age, disease, medications, and the quality and intensity of pruritus (30, 37).

Topical treatment. Specific changes in the stratum corneum have been reported in patients with senile pruritus with clinically drier skin as a consequence (51). Hence, first-line treatment could be an emollient, since authors suggest that a low pH may be of further benefit through reduction in the activity of serine proteases (mast cell tryptase) (46). Topical treatments are frequently used against pruritus, but none has been studied specifically in senile pruritus. Topical corticosteroids are not recommended in the absence of inflammation and enhanced skin atrophy in elderly people.

Systemic treatments. Currently, no systemic treatment can be recommended for guidelines for senile pruritus due to the absence of clinical trials (37). The elderly population often have other simultaneous diseases and medications, and the treatment has to be adapted to each patient with

his/her history. In senile pruritus, the efficacy of antihistamines is questionable. Although 2 studies (69, 70) have suggested their efficacy, other studies have suggested other mediators that do not respond to antihistamines.

In a study by Guillet et al. (69), among 60 patients treated with an antihistamine, 40% were assessed as completely or markedly improved. In a trial by Dupont et al (70), complete suppression or marked improvement of pruritus was experienced by 79% of patient treated with oxatomide vs. 31% in the control group treated with placebo. Antihistamines (mainly first-generation with an anticholinergic effect) must be used with caution in elderly people due to their sedative effects and putative side-effects of glaucoma and urinary retention (71).

Two papers have reported the efficacy of gabapentin for senile pruritus. In 2005, Yesudian & Wilson (72) reported 2 patients treated with gradually increasing doses of gabapentin (from 300 to 1,800 mg/day). Both patients had an excellent response, with complete control of itching after 1 month. In 2009, Ruiz-Villaverde & Sanchez-Cano (31) showed the efficacy of gabapentin, with a 50% reduction in pruritus in 7 patients on maximum doses of 900 mg per day. All of the patients within these 2 studies were monitored for 9 months, and no relapse or side-effects were observed (31, 72).

A study of 10 patients with senile pruritus was in favour of the efficacy of cyclosporine (5 mg/kg/day) on pruritus, with 80% complete disappearance of itching after 8 weeks of treatment. Efficacy seemed to extend after discontinuation of treatment, and, indeed, no relapse was observed 3 months after the treatment ended (73). Major adverse effects of cyclosporin A are high blood pressure and renal failure, which limits the use of cyclosporine in elderly people. In this study, 2 patients needed a dose adjustment to control blood pressure and no laboratory changes were observed.

Physical treatments. Ultraviolet B (UVB) phototherapy can be interesting because it has few side-effects and drug interactions. However, this treatment requires coordination with family or caregivers. Phototherapy requires bi- or tri-weekly treatments (30).

Monk (74) reported the efficacy of transcutaneous electrical nerve stimulation (TENS) in 2 cases of senile pruritus that were resistant to other treatments. The relief of itching was not confined to the area of the stimulated skin. Indeed, TENS was applied only to the chest, but the generalized pruritus disappeared. TENS may be helpful in the treatment of itchy skin disorders. No side-effects were observed for these patients who used this treatment for a long time.

Patient education. Some general measures might be helpful in senile pruritus (46): using moisturizers, keeping finger-nails short, wearing light loose clothing, maintaining a comfortable temperature and hair humidification, showering/bathing in cool or lukewarm water or avoiding cleansers with a high pH. The emollient may be applied directly after bathing when the skin is still wet. This treatment could be using to avoid the drying process by water evaporation from the skin (47). Frequent washing and the use of astringent soaps may exacerbate itching. Avoiding alkaline soaps, excessive bathing, hot baths, irritant fabrics (for example wool), dry air conditions and use of occlusive bandaging might help (43). Pruritus is responsible for a vicious cycle of itching and scratching, and these measures, as well as emollients and anti-pruritic creams, may help to break this cycle. An educational multidisciplinary training programme was successfully proposed to many retired patients (75).

CONCLUSION

Pruritus is frequent in the elderly population, although an interesting study (76) showed that age was not significantly associated with chronic pruritus when the outcome was current pruritus or pruritus within the last 12 months. However, a significant association of age with lifetime pruritus was observed. Interestingly, in this study there was a peak in the age-group 51–60 years. Another study from the same team (77) showed that the incidence of chronic pruritus was significantly associated with age. The risk of chronic pruritus increased by 2% with each additional year of age and was twice as high in retired compared with working individuals. These data derived from the general population are of importance because not all persons with chronic pruritus are automatically patients, as not all of them seek medical help.

Senile pruritus is poorly understood, probably multifactorial, and difficult to treat. Senile pruritus is a diagnosis of exclusion. It can be determined after a specific check-up, but the pathophysiology is still unclear. It is likely that age-related changes in the skin, cutaneous nerves or immune system play a role. These theories suggest a new approach to this disorder. However, the treatment of senile pruritus remains a challenge for dermatologists and non-dermatologists. No topical or systemic treatment can be recommended; the literature proposes only anecdotal solutions. We propose an algorithm (**Fig. 2**) to stimulate debate. Patients must be provided with follow-up, support and education to enable better compliance and monitoring. Elderly people comprise a fragile population and may have a history of high levels of treatment. Senile pruritus and its impact on quality of life could foster comorbidities. The lack of data on senile pruritus emphasizes the difficulties for physicians in treating this condition; thus, further research is urgently needed.

Conflict of interest: CJC had no conflict of interest. LM was consultant for Abbvie, Almirall, Astellas, BASF, Beiersdorf, Bioderma, Clarins, Expanscience, Galderma, GSK, Janssen, Maruho, Novartis, Pierre Fabre, Sanofi and Uriage.

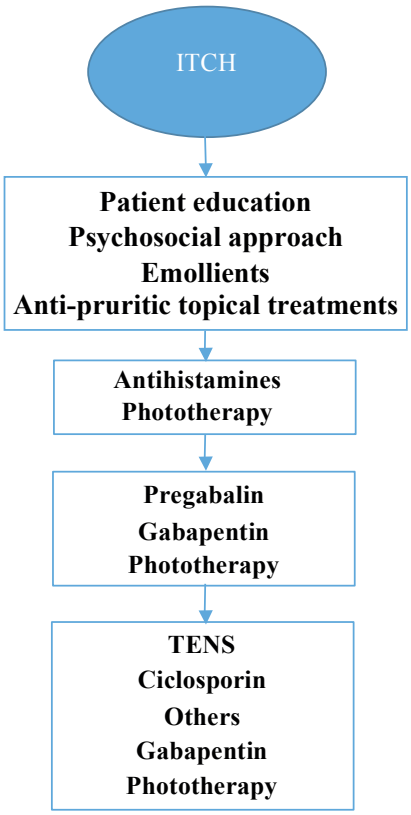

Fig. 2. Proposals for an algorithm for the treatment with a 4-step-approach. TENS: transcutaneous electrical nerve stimulation.

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