

DUE Quarterly

DRUG USE IN THE ELDERLY

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PROMOTING MORE EFFECTIVE MEDICATION USE BY SENIORS

How to manage a common dermatologic complaint – pruritus

Itching is the most common dermatologic complaint in people older than 65.

Pruritus is the medical term for itching and is derived from the Latin verb *prurire*, meaning to itch.

The unpleasant sensation provokes the desire to scratch.

This sensation is transmitted:

- Primarily by small-diameter, slow-conducting unmyelinated C nerve fibres and type A delta myelinated nerve fibres in the skin.
- From superficial nerve fibres in the epidermis or close to the dermoepidermal junction to the ipsilateral dorsal root ganglia, these impulses then synapse with nociceptor neurons in the dorsal horn.

Pruritogenic impulses then cross to the contralateral lateral spinothalamic tract, ascend to the thalamus and, ultimately, to the cerebral cortex where the sensation of itch is interpreted.

Both itch and pain sensations are transitted through similar pathways in the spinal cord and brain. But recent studies have shown these are distinct entities.

- Subtle differences in cerebral activation between itch and pain can be demonstrated in areas of the cerebral cortex on PET scanning.

Several mediators of pruritus act peripherally and centrally, and include histamine, tryptase, prostaglandin E, substance P, nerve growth factor, interleukin-2 and opioid peptides.

- Opioids are now recognized to modulate pruritus peripherally and centrally.
- Pruritus is increased with stimulation of opioid μ receptors and decreased with stimulation of kappa (κ) receptors or blockage of μ receptors.

Determine if the pruritus is localized or generalized to ascertain if it is related to an underlying systemic disease.

Evaluation

When evaluating a patient with pruritus, it is important to determine if the pruritus is localized or generalized – to ascertain if it is related to an underlying systemic disease – and if it is occurring in the setting of primary lesions or only secondary excoriations.

- Primary lesions refer to a clinical eruption at the time of the pruritus and can include such itchy primary skin conditions as eczema, urticaria or lichen planus.
- Secondary lesions are excoriations induced by the patient scratching. Although one can have a primary extremely pruritic dermatologic condition in which all lesions are secondarily excoriated, such as dermatitis herpetiformis or scabies, careful physical examination will

usually reveal some primary lesions if the pruritus is due to an actual dermatologic disease.

- Making a dermatologic diagnosis is essential to determine treatment for the primary skin disease. This may necessitate a skin biopsy.

Treatment is individualized depending on the dermatologic disease.

- Localized pruritus is not normally associated with underlying systemic disease.
- Generalized pruritus in the absence of primary skin lesions should prompt a search for an underlying systemic disease.



NEXT ISSUE

- The art of managing seniors with heart failure

DUE Quarterly offers expert opinions – not ACP-AMA guidelines or evaluations of drug use.

Ten-50% of patients seeking medical attention for generalized pruritus have underlying systemic disease. Normally, itching that awakens a patient from sleep is significant pruritus. But scratching is worse at night with most patients because they are warmer (under covers and blankets) and not as distracted as during the day.

When assessing a patient with generalized pruritus without primary skin lesions, it is important to take a thorough history and perform a complete physical examination with special attention to the skin (check for xerosis [dry skin] and dermatographism), thyroid, lymph nodes, liver and spleen, and perform a rectal exam and a pelvic exam in women.

See Table 1 for systemic diseases associated with generalized pruritus.

Uremic pruritus

One-quarter to one-third of uremic patients treated without dialysis exhibit uremic pruritus.

- Etiology is unknown but is theorized to result from kidneys not clearing pruritogenic metabolites. But dryness of the skin and secondary hyperparathyroidism also may play a role.
- Although dialysis is often helpful for uremic pruritus, not all of those patients show improvements in the pruritus and it can worsen during dialysis.

Cholestatic pruritus

Pruritus is:

- Rare in patients with liver disease lacking cholestasis.
- Almost universal in patients with primary biliary cirrhosis and may be the presenting symptom. Bile acids have long been suspected as etiologic factors but do not correlate with pruritus intensity.

Recently, autotaxin, a serum enzyme that converts lysophosphatidylcholine into lysophosphatidic acid (LPA), was found to be markedly elevated in cholestatic patients. LPA has been implicated as a potential mediator of cholestatic pruritus.

Hematologic pruritus

Pruritus in polycythemia rubra vera is classically aquagenic pruritus, which is itching that occurs minutes after water contact, regardless of temperature or salinity, and lasts 30-60 minutes.

Itching is seen in about 30% of patients with Hodgkin's disease and may be the presenting symptom.

- But pruritus has been reported in about 3% of patients with non-Hodgkin's lymphoma. It is more common in lymphocytic than granulocytic leukemia, and more frequent in chronic versus acute disease.
- Iron deficiency is a rare cause of pruritus, with or without anemia.
- However, most patients with iron deficiency do not manifest generalized pruritus.

Endocrine disorders

Pruritus occurs in 4-11% of patients with thyrotoxicosis.

- Pruritus of hypothyroidism is more common, likely due to the accompanying xerosis.

There is not good evidence that diabetes mellitus is a cause of generalized pruritus.

Investigations for patients with generalized pruritus

Investigations for a patient with generalized pruritus without primary skin lesions will depend upon history and physical examination results.

- Positive results will lead to more specific targeted investigations.

For a patient with no obvious findings, the following investigations may be performed:

- CBC with differential; ESR; serum ferritin; LFTs including transaminases, alkaline phosphatase, bilirubin total and direct; BUN, creatinine, GFR; TSH; serum protein electrophoresis; chest X-ray (looking for asymptomatic lymphadenopathy or tumor).

Special considerations for generalized pruritus in the elderly

The most common cause of generalized pruritus in people older than 65 is xerosis (dryness) of the skin.

Table 1
Systemic diseases associated with generalized pruritus

Renal

- chronic renal failure (uremic pruritus)

Hepatic

- extrahepatic biliary obstruction (cholestasis)
- primary biliary cirrhosis
- cholestasis of pregnancy

Hematopoietic

- polycythemia rubra vera
- Hodgkin's disease
- other lymphomas and leukemias
- multiple myeloma
- iron deficiency
- mastocytosis

Endocrine

- hyperthyroidism
- hypothyroidism
- carcinoid syndrome

Miscellaneous

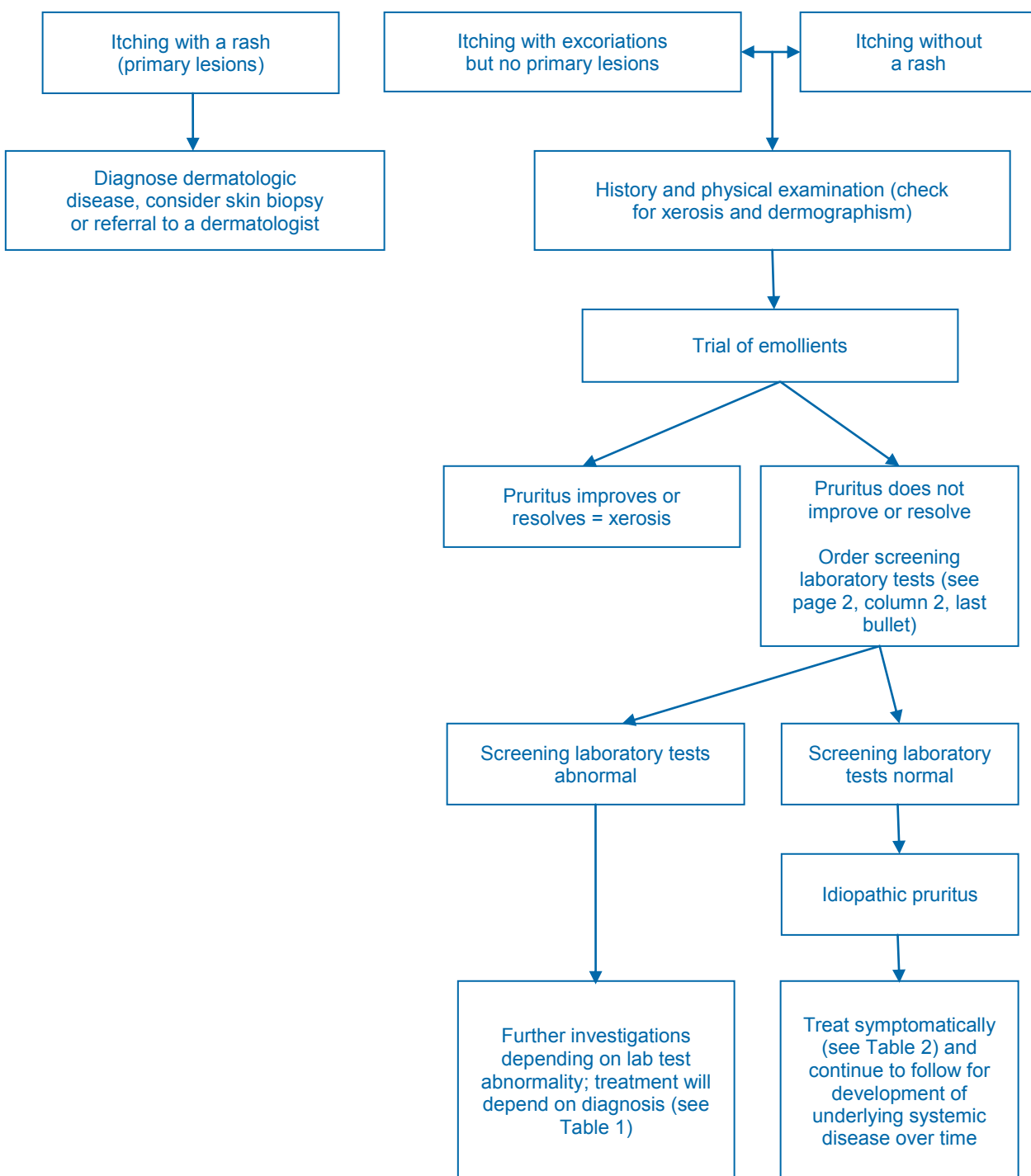
- malignant neoplasms
- AIDS
- neurologic syndromes (cerebral tumors, multiple sclerosis)
- drugs (opioids)
- psychosis (delusions of parasitosis)

- Elderly patients produce decreased amounts of skin surface lipids, impairing the water-holding capacity of the stratum corneum. Also, their stratum corneum shows slower barrier repair. These aging changes lead to greater trans-epidermal water loss.

Idiopathic pruritus, in the absence of xerosis, has also been reported in elderly patients and has been referred to as "senile" pruritus or Willan's itch.

Practically speaking . . .

Evaluating an elderly patient with generalized pruritus



continued from page 2 ...

- The cause is unknown but is postulated to be peripheral nerve atrophy, possibly leading to a "subclinical neuropathy." This is obviously a diagnosis of exclusion.

Aquagenic pruritus of the elderly (unrelated to the aquagenic pruritus associated with polycythemia rubra vera) is felt to be related to xerosis, especially in elderly patients who take frequent baths or showers but do not moisturize their skin.

Pruritus related to internal disease would be expected to be more common in elderly patients who would have a higher incidence of underlying medical diseases and malignancies.

Treatment of generalized pruritus in the elderly

In the absence of a suggested cause in the history or physical examination, patients should be treated for xerosis to see if the itching improves.

Suggested treatments for xerosis are:

- Frequent application of emollients, especially within two-three minutes after drying off after bathing or showering.
- Avoid hot and prolonged showers.
- Use bath oils (e.g., Aveeno or Keri) with caution because of the increased risk of slipping and falls.
- Avoid fragranced and drying soaps.
- Avoid fabric softeners.
- Avoid wool clothing next to the skin; cotton fabrics are best.
- Avoid topical corticosteroid creams or ointments, unless there are signs of inflammation (i.e., asteatotic dermatitis).

Table 2

General considerations for pruritus treatment

Non-pharmacologic

- ultraviolet B or narrowband UVB therapy

Topical therapy

- menthol, camphor, phenol 0.25-1%
- capsaicin 0.025% cream
- pramoxine 1%

Systemic therapy

- antihistamines (must be sedating, e.g., hydrazine 10-25 MG PO QD or diphenhydramine 10-25 MG PO QD) for soporific effect. Can increase either up to 75 MG QD as tolerated.
- doxepin (tricyclic antidepressant with significant antihistaminic properties) 10-50 MG PO QD
- amitriptyline 10-50 MG PO QD
- SSRIs – paroxetine 10-40 MG PO QD; sertraline 75-100 MG PO QD
- ondansetron 8 MG PO QD or BID
- carbamazepine 200 MG PO BID
- gabapentin (especially for neuropathic itching) 100-2400 MG PO QD
- μ opioid antagonists – naltrexone 25-50 MG PO QD
- κ opioid agonist – buprenorphine 1-4 MG intranasal QD

Avoid

- topical anesthetics (e.g., benzocaine and topical antihistamines)
✦ risk of topical sensitization and production of allergic contact dermatitis

If there is no significant improvement, see "Investigations for patients with generalized pruritus" on page 2 (in column 2).

Treatment

Discussion of specific treatments for generalized pruritus associated with an underlying systemic medical disorder is

beyond the scope of this article and would depend on the specific medical condition treated.

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We'd like your feedback . . .

DUE Quarterly focuses on the provision of practical drug management information for practising clinicians. Comments and suggestions for future articles are welcome. Please contact:

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