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Practice Gaps in Pruritus

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PRACTICE GAPS

Difficulty Measuring Pruritus

Pruritus or itch is a sensation that is characterized by an urge to scratch. Patients' report of pruritus is subjective and can be described as itching, burning, tingling, stinging, and so forth. Given the subjective nature of pruritus, it is often difficult to assess in clinical practice. There are currently no serologic or tissue markers clinically available to characterize the nature and/or intensity of itch (Box 1). In order to address this knowledge and skill gap, future studies are needed to identify biomarkers of itch that can be used in clinical practice. One approach to objectively assessing itch is to measure body movements that occur in scratching (ie, actigraphy). This approach has been used in research studies and clinical trials. However, the feasibility and validity of using actigraphy in clinical practice has not been established. Future studies are needed to determine whether actigraphy should have a role in clinical practice.

Box 1

Practice gaps for the evaluation and management of itch

Practice gap

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Difficulty measuring itch

- Lack of biomarkers for itch
- Lack of objective measures of itch available for clinical use
- Infrequent use of validated patient-reported measures of itch by health care professionals
Lack of appreciation of the patient-burden of itch

Limited treatment options for itch

- There are no FDA-approved medications primarily indicated for the treatment of itch.
- Dermatologists often use non-evidence-based treatments for itch and may not be comfortable with prescribing some of the more effective treatments available.
- Antihistamines should not be a one-size-fits-all treatment of all pruritic disorders.
- Screening and referral for mental health comorbidity of itch are often not performed.

Lack of evidence for workup of generalized pruritus

- Generalized pruritus may be caused by several systemic disorders.
- There is no consensus for the optimal screening approach for systemic disease.

Educational gaps

- Many dermatologic texts do not have sections devoted to the evaluation and management of pruritus.
- Dermatology residency curricula should incorporate didactics devoted towards the evidence-based treatment of pruritus.

Abbreviation: FDA, Food and Drug Administration.

Clinical assessment of pruritus is currently limited to patient-reported outcomes, including the visual analog scale (VAS) and numeric rating scale (NRS). These tools have been previously validated.¹ Some experts have even suggested incorporating such measures of itch as a fifth vital sign in dermatology practice, similar to the routine use of similar scales for the assessment of pain. However, these scores are imperfect. Self-reported intensity of itch with VAS seems to not correlate well with objective measures of scratching using actigraphy.² Nevertheless, until optimal objective measures for itch are available for clinical practice, the VAS or NRS remain important tools for quantifying the intensity of itch. Alternatively, the patient-burden of itch can be assessed using quality-of-life instruments (eg, Dermatology Life Quality Index, Skindex, or ItchyQOL). Unfortunately, standardized assessment of itch is rarely performed in dermatological practice outside of specialty centers. In order to address this practice gap, health care professionals in dermatology should consider routine screening of patients for itch. At the very least, patients with chronic

inflammatory skin disease or who present with a chief complaint of pruritus should be evaluated with VAS or NRS. Strategies to improve the clinical assessment of itch include incorporating the VAS or NRS into the electronic health record and incorporating itch assessments into the clinical workflow when patients are being roomed.

Lack of Appreciation of the Patient-Burden of Pruritus

Chronic pruritus is a very troubling symptom for patients and associated with poor health-related quality of life.^{3,4} Previous studies found that itch causes just as much quality-of-life disturbance as does pain.⁵ Chronic pruritus negatively effects all patients' activities of daily living and their emotional well-being.^{3,4} Despite itch being a commonly reported symptom,⁶ it is not routinely assessed by most clinicians. Patients often think that health professionals do not take their itch seriously,⁷ which may result in inadequate treatment and poor patient satisfaction. To address these gaps, health care professionals should routinely ask patients about itch. Moreover, health care professionals should ask patients with pruritus about its impact on their quality of life. Finally, treatment decisions must factor in the patient-burden of itch. Health care professionals should consider adding and/or replacing itch treatments when the intensity of itch and quality-of-life disturbance are not improved by current therapy.

Limited Treatment Options for Pruritus

There are several gaps with respect to the treatment of itch. There are no Food and Drug Administration–approved medications primarily indicated for the treatment of itch. The mechanisms of itch are not fully understood, which has hindered development of novel therapeutic agents for pruritus. Moreover, itch seems to be mediated by complex signals from both peripheral and central nervous system pathways. It remains controversial whether future therapeutic development should target peripheral or central pathways. Future research is needed in order to better understand both the peripheral and central mechanisms for itch.

Moreover, far fewer randomized controlled trials have been performed to study the efficacy of treatments for itch than for pain. More well-designed randomized controlled trials are needed to determine the most effective treatments for itch.

There are a variety of causes of itch, including inflammatory skin diseases (eg, atopic dermatitis and lichen planus), systemic disease (eg, renal or hepatic failure), burns, and so forth. Itch may respond differentially to treatment depending on the cause. For example, topical treatments are quite effective in chronic inflammatory skin disease but are not particularly effective for uremic pruritus. Over-the-counter antipruritic agents (eg, menthol) may not be effective for systemic causes of itch.⁸ Ursodeoxycholic acid seems to be effective for the treatment of intrahepatic cholestasis of pregnancy.^{9,10} Patients with uremic pruritus typically improve with improved renal function or dialysis. Thus, treatment of itch should be tailored to the cause.

Antihistamines are commonly used for the treatment of itch. Antihistamines may be effective for the treatment of itch secondary to urticaria,¹¹ which is a histamine-mediated disorder. Moreover, the sedating properties of first-generation antihistamines can be used to help pruritic patients fall asleep at night. However, antihistamines are generally ineffective

treatments for the reduction of other types of itch. Moreover, high doses of antihistamines are associated with a variety of adverse effects, including daytime somnolence, weight gain, dry mouth, urinary retention, dizziness, and so forth. Although later-generation antihistamines have fewer adverse effects, they are also unlikely to be effective at reducing itch and do not have the sedating properties to help patients fall asleep. Therefore, antihistamines are not recommended for the treatment of itch in atopic dermatitis¹² and should not be a one-size-fits-all treatment of other pruritic disorders.

There are several existing therapies that should be used as first-line agents or considered as second-line agents if and when patients experience treatment failure with antihistamines. Gabapentin has been found to be effective in uremic pruritus,^{13–15} burns,¹⁶ notalgia paresthetica,¹⁷ neuropathic itch,¹⁴ and itch occurring in palliative patients.^{13,18} Additional agents that should be considered for the treatment of itch include pregabalin, mirtazapine, butorphenone, naltrexone, aprepitant, and narrow-band ultraviolet B.^{9,13,14,19–22} Of note, placebo effects on itch are common,²³ which may explain why some patients report improvement of their itch even with several non-evidence-based treatments. Nevertheless, health care professionals should use evidence-based treatments wherever possible.

Finally, patients with chronic pruritus often require psychological interventions as part of their treatment plan.²⁴ This requirement may be true regardless of the cause of itch. Many dermatologists do not ask patients about the impact of itch on their mental health. Understandably, most dermatologists are not skilled in administering appropriate psychological interventions. In addition, such interventions are time consuming and may not integrate into the clinical workflow of the typical dermatology practice. Nevertheless, health care professionals should consider a brief assessment of the impact of itch on mental health and refer to an appropriate mental health specialist for long-term treatment.

Lack of Evidence for Workup of Generalized Pruritus

Itch can be the first symptom of systemic disease, including uremia, cholestasis, thyroid disease, human immunodeficiency virus, polycythemia vera, diabetes, leukemia, and lymphoma, including Hodgkin disease, cutaneous T-cell lymphoma, and Sézary syndrome.²⁵ In addition, specific causes of itch may have an improved response to tailored treatment. Thus, it is imperative to evaluate pruritic patients for underlying systemic disorders. However, the myriad disorders that are associated with itch present a clinical challenge. There are no consensus guidelines as to the best algorithm for working up generalized pruritus. Comprehensive screening for all these disorders can be quite expensive. Moreover, the prevalence of these disorders is low in the general population, which results in infrequent positives and a low positive predictive value. Many patients with generalized pruritus have entirely negative blood work and imaging. Future research is needed to determine the optimal algorithm for evaluating systemic causes of generalized pruritus. Until then, health care practitioners should perform a comprehensive patient history, review of systems, and physical examination to identify clinical clues toward the cause of itch. Particular attention should be paid toward evidence of a skin disorder that might cause pruritus, including xerosis and visible inflammation of skin. If these are not present, then age-appropriate and,

if needed, comprehensive screening for the various systemic causes of itch should be considered.

Dermatologists may not recognize the potential role of medications as an iatrogenic cause of itch. Medication use should be assessed in patients with generalized pruritus, because calcium channel blockers, hydrochlorothiazide, and other medications may cause itch without any other cutaneous findings.²⁶

EDUCATIONAL GAPS

The etiopathogenesis and treatment of itch is complex. The workup of itch is challenging and requires a broad differential diagnosis. Residents must be fluent in the spectrum of possible causes, ranging from benign disorders (eg, xerosis and atopic dermatitis) to malignancy (eg, cutaneous T-cell lymphoma and paraneoplastic itch) and systemic disease (eg, uremia). Many dermatologic texts do not have sections devoted to the evaluation and management of pruritus. Dermatology residency curricula should incorporate didactics, particularly generalized pruritus.

Treatment of itch often requires the use of oral medications that are outside the comfort zone of dermatologists. These medications include neuroleptics, selective serotonin uptake inhibitors, benzodiazepines, immunosuppressants, and so forth. Many dermatology residents graduate from residency without learning how to when and how to administer these medications. It is vital that dermatology residency curricula incorporate didactics devoted toward the evidence-based treatment of pruritus, including an appropriate therapeutic ladder for different causes of itch.

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KEY POINTS

- The severity of and patient-burden from pruritus should be assessed in all patients with itch.
- Management of pruritus should be tailored to the underlying cause and use evidence-based treatments.
- Patients with generalized pruritus of nondermatologic cause should be screened for several underlying systemic disorders.