REPORTING SUSPECTED OCCUPATIONAL DERMAL EXPOSURE TO HERBICIDE

PESTICIDE EXPOSURE AND ILLNESS REPORTING: MANDATES AND CHALLENGES FOR MEETING THEM

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Introduction

Pesticide exposure and illness are largely unrecognized or attributed to other more common pathologies in the Urgent Care setting. Over sixty percent of states have mandated reporting for pesticide exposure and illnesses. Reporting is often limited due to patient reluctance to report symptoms and suspected exposure, to clinicians' lack of training/awareness that pesticide-related illness may be present, and the fact that clinicians are not aware of reporting mandates.

CLINICAL PRESENTATION:

A 54-year-old Hispanic male presents to the Urgent Care Clinic with a 4-day history of a progressively itchy and painful rash affecting bilateral lower extremities--primarily his feet, ankles, and distal legs bilaterally. He reports a history of "athlete's foot" intermittently at varying intervals through the past several years. This rash started similarly to prior episodes of tinea pedis, though it has never been this bad, or extended this far up his legs. The rash is erythematous and affects the entirety of both plantar surfaces, it is itchy and has progressed up his lower legs with "red dots." This is accompanied by worse-than-normal foot odor despite efforts to maintain hygiene. He reports that he works on a farm, and in the past 6-7 days has been wearing "muck boots" (waterproof rubber boots that extend to just below the knees) while working in the fields. The rash has not improved with the over-the-counter spray-powder he has used successfully on numerous occasions. He has worked to dry his skin after showers and after work. Additional questioning revealed that this person was working in a low-lying, muddy lettuce field for the duration of his presenting complaint, including onset. He did report a chemical smell in the field and on his boots when they were removed at the end of his workday, repeatedly during this time period. Patient denied headache or special sensorium change, increased salivation, rhinorrhea, respiratory complaint, gastrointestinal discomfort, diarrhea, change in urination, and other review of systems complaints.

Patient is Spanish speaking only, with occasional English nouns, and is seen with the aid of a video interpreter. Provider is English speaking only.

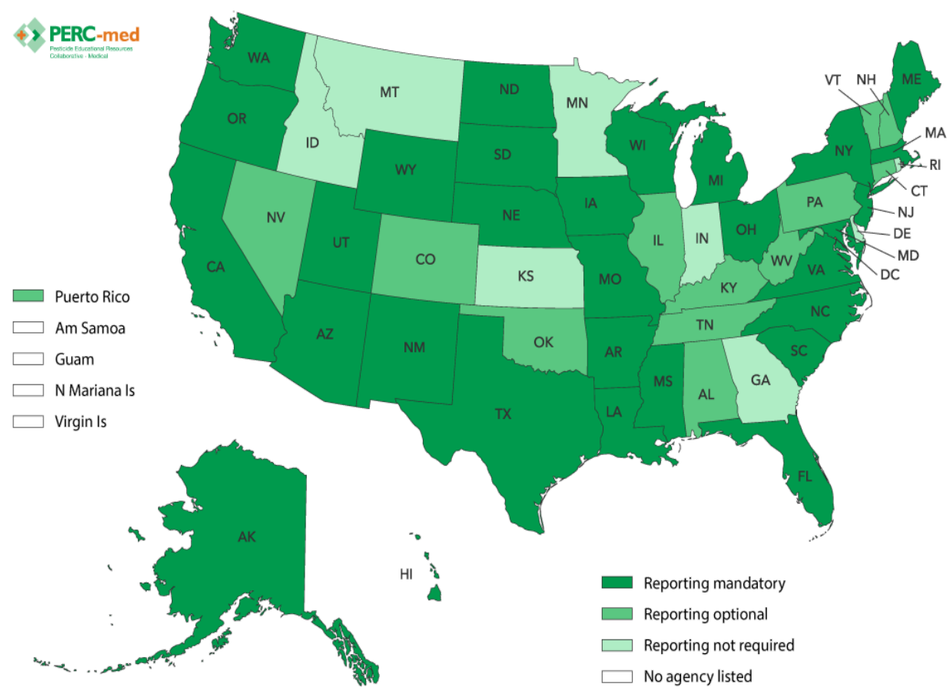
Pertinent medical history is limited as patient is not a documented U.S. citizen, has no medical records from his home in Mexico City, Mexico, and reports that he does not avail himself of clinical medicine except for acute circumstances. Medical literacy is considered limited though patient is relatively certain he is not diabetic. He denies other underlying health issues and has no history of symptoms of cardiac disease, hypertension, hyperlipidemia, gout, vasculitis, or other chronic skin conditions. He currently takes no prescription medications and denies that clinicians have prescribed him medications for routine use in Mexico or in the United States. He cannot relate timing or location of his last clinic visit.

Objective findings revealed a prehypertensive and afebrile male, who was pleasant and appropriately interactive. Finger-stick capillary blood glucose reading in the clinic was 124 mg/dL. HEENT exam revealed some dental challenge, no miosis. Lungs were clear on auscultation of all fields and phonation clear, cardiac evaluation revealed S1, S2 and no murmurs. Abdominal exam was without tenderness or mass and with normal bowel sounds. SKIN: Sun related change noted over face/neck/upper chest, as well as over arms and forearms. No obvious concerning lesions noted. Clean and well-fitting shoes and socks were removed to reveal petechiae in sock-like fashion of the skin from just inferior to the knee to the ankle where petechiae became confluent and diffuse; inflammation affected the entirety of both ankles, the dorsum of both feet, and all toes. There was superficial desquamation affecting the entirety of plantar surfaces of both feet, including between all toes, where some macerated tissue was noted. There was no sign of secondary infection, abscess or fluid collection, induration, there was no streaking. Sensorium was intact throughout, capillary refill was brisk in all areas, dorsalis pedis pulses were 2/4 bilaterally. ROM of all toes was full and unlimited. Faint odor was noted despite effort with hygiene. Laboratory services were offered and declined by patient due to cost and no reliable way to contact the patient with results once available.

TREATMENT:

First line treatment for cutaneous chemical exposure and injury is to remove the offending agent, clean skin, and consider additional care depending on the nature and severity of injury that has occurred. Thereafter avoidance of additional exposure and injury should be ensured.

In this case the patient had accomplished chemical removal and skin cleansing. Patient reported that he was able to take some time away from work (recommended at least 7 days), to limit all occlusive footwear as much as possible, continue his good hygiene, and to clean floors and showers with a 10% bleach solution thereafter. He was instructed to monitor for signs/symptoms of infection and to return to clinic or seek emergent care if they occurred. He was asked to discontinue all other treatments until healed, and was recommended to follow in our clinic in 5-7 days, at which time we would consider resuming care for tinea pedis if it persisted following resolution of inflammatory response.



DISCUSSION:

Clinically, the impression is that of tinea pedis which was greatly aggravated by a chemical dermatitis. The patient refused to reveal his employer. He did not know which pesticides or fertilizers with which he was in contact, though had witnessed application thereof several days prior. The patient was forthright in stating that he would lose his employment, housing, and perhaps risked deportation if he shared more than what history was provided.

Of note: patient did not demonstrate classic signs of organophosphate or methylcarbamate poisoning and his symptoms appeared to be limited to the integumentary system. He was provided Spanish language materials on both pesticide poisoning and tinea pedis.

In Oregon, where this case was seen, reporting of any suspected or confirmed illness or condition related to pesticides is mandatory. The patient did not consent to allow the name or location of his employer or site of exposure and did not provide a way for other agencies to reach him for follow-up. This clinician looked past the more obvious diagnosis of tinea pedis to determine that other causation was present.

This interactive pesticide reporting requirements map, developed by PERC-med, is a useful educational tool for increasing awareness of such requirements by state and territory.

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Pesticide Educational Resources Collaborative - Medical

The Pesticide Educational Resources Collaborative - Medical is a cooperative agreement (agreement #X-83935901) between the U.S. EPA's Office of Pesticide Programs and University of California Davis Office of Continuing and Professional Education, in collaboration with Oregon State University