The Mystery of the sudden onset of painful bumps on the feet of a child

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The Case of Cy Chosis

- 8-year-old male presents to the emergency room with a one-day history of a sudden onset of red, painful lumps on the soles of his feet
- The initial history is non-contributory
- Lab work is done and includes a normal CBC, a normal ESR, normal x-rays of both feet, ANA, immunoglobulins, complement, cryoglobulins, and cold agglutinins
Cy Chosis (continued)

- The following day, Cy returns to you, his primary physician for “follow-up”
- Your review of the past medical history indicates:
  - entirely healthy child
  - he doesn’t walk around bare-footed
- PE (shown)
  - tender red-purple macules and papules on the soles…tender to minimal pressure/palpation
CY Chosis (continued)

- You review yesterday’s laboratory tests
  - normal x-rays of the feet
  - normal CBC, sedimentation rate
  - complement and immunoglobulins (pending)
  - ANA and RF (pending)
  - negative cold agglutinins (pending)
Cy and his painful plantar surfaces...
Note the erythematous papules and nodules on the plantar surface of the feet... they are on the weight bearing surfaces.
Another view of Cy's tender “tootsies”
Are you ready for another clue?

- First of all, I think you have to settle in your own mind the issue of the **sudden** onset of this problem. What was Cy doing prior to this problem?
Remember, kids' work is their play... this is going to require a little more investigation on your part.
The truth now comes out...

- Cy admits to having played in the hopscotch championship in his neighborhood. Actually he is the newly crowned champion.
Here is another hint.. his next door neighbor arrives about one hour later. She was the runner-up!
Miss Tanya Hyde, the next door neighbor... she, too, has painful nodules on the plantar surface of her feet. See close-up on next slide...
Foot of next door neighbor... multiple tender nodules on plantar surface
And the answer is...
Answer:
Traumatic Plantar Urticaria

- "Occupational" history indicates he is the hopscotch champion of his block
- Net result is traumatic urticaria
- Histology - perivascular neutrophils in papillary and reticular epidermis
Traumatic Plantar Urticaria: Differential Diagnosis

- Pressure urticaria
- Cellulitis
- Chilbains
- Cutaneous larval migrans
- Vibratory angioedema
- Eccrine hydradenitis
- Talon noir (black heel)
So, let’s take a look at some of the foot conditions mentioned in the differential diagnosis.
... Had there been no trauma, another consideration would have to be palmoplantar eccrine hidradenitis.
Plantar eccrine hidradenitis in a patient who wore sneakers “all of the time.” Occlusive footwear may be contributory but not in all cases.
Another patient with contact dermatitis from her new shoes. See next photo..
Girl from previous picture with her new leather shoes. Chemicals from the tanning process were most likely the irritant.
Reference

  - healthy children
  - sudden onset of symptoms
  - normal lab
Reference (continued)

  - marked perivascular neutrophillic infiltrates in papillary and reticular dermis
  - progressive course with continued activity and spontaneous regression with rest
Still more references...