Episode 38 Bumps in a Baby

Differential for bumps in a baby:

1) Solitary bumps (MYSPACE)
   - M- milia or mastocytosis
   - Y- yellow tinged lesions (juvenile xanthogranulomas)
   - S- Spitz nevi
   - P- pilomatricomas or pyogenic granulomas
   - A- amelanotic nevi or melanomas
   - C- calcinosis cutis
   - E- epidermal inclusion cysts

2) Multiple bumps
   - Molluscum, trichoepitheliomas, syringomas, angiofibromas (adenoma sebaceum in tuberous sclerosis)

3) Rare bumps
   - Osteoma cutis, dermoid cysts

Solitary bumps
- Milia
  - 1-2 mm firm white-to-yellow papules on central face
  - Present in > ½ of infants, resolve in handful of weeks

- Mastocytomas
  - Accumulation of mast cells in the skin
  - Fleshy red-to-brown macules, papules, or plaques of varying size on arms, neck, torso
  - 40% present at birth, most appear before age 1, self-resolve over years
  - Darier’s sign (up to 90% of cases)
    - Rubbing lesion histamine release erythema and localized swelling
  - Treatment: antihistamines, avoid mast cell triggers

- Juvenile xanthogranulomas (JXGs)
  - Histiocytes (“cell of the tissue”)
    - Langerhans cells
      - Antigen-presenting cells that migrate to and from the epidermis
    - Mononuclear cells and macrophages
      - Monocytes macrophages upon entering tissues
      - Macrophages function as antigen-presenting cells and phagocytes in the dermis
  - Dermal dendritic cells (two subtypes)
    - Type 1 dermal dendritic cells- in papillary dermis, function like macrophages
    - Type 2 dermal dendritic cells- deeper in the reticular dermis, unclear function
  - JXGs are a proliferation of non-langerhans cells (macrophages or dermal dendritic cells)
  - JXGs tan to red-orange smooth, dome-shaped papules or nodules on head, neck, and trunk that yellow over time and may ulcerate
    - 90% solitary, 20% present at birth
    - Most common extracutaneous site eye (consider referral to peds ophtho)

- Association between juvenile xanthogranulomas (JXG), neurofibromatosis type 1, juvenile chronic myelogenous leukemia (JCML)
  - Most JXGs spontaneously regress in 3-6 years

- Spitz nevi
  - Solitary, smooth, dome-shaped red brown papule between 5-10 mm common on face
  - Decision to excise is controversial

- Pilomatricomas (calcifying epithelioma of Malherbe)
  - Hard papule or nodule on head, neck, upper arms
    - Firm on exam 2/2 calcification, color may be fleshy, pink-red, slightly blue
  - Associated with mutations in beta-catenin
  - Multiple pilomatricomas in the same patient consider myotonic dystrophy, Rubinstein-Taybi disease, and Gardner syndrome

- Pyogenic granulomas
  - Friable, red papule that grows quickly over weeks to months at trauma-prone site (gingiva, lips, fingers, face)
    - Collarette of scale at periphery clue for dx
Triggers: minor trauma, pregnancy, medications (e.g. retinoids)

- Amelanotic nevi and amelanotic melanomas
  - Melanomas rare in children and often present as a fleshy or pink-red papule or nodule
  - **Different ABCDE's** than for adults
    - A- amelanotic
    - B- bleeding
    - C- single color
    - D- small diameter
    - E- evolution

- Calcinosis cutis
  - Calcium deposition in the skin
  - 4 main subtypes
    1. **Dystrophic** - 2/2 damage (inflammation, trauma) to skin
       - Calcium deposits in juvenile dermatomyositis, CREST syndrome, after heel sticks
    2. **Idiopathic** - no known cause
       - Scrotal or labial calcinosis, subepidermal calcified nodules (SCNs)
    3. **Metastatic** - patients have *abnormal* levels of calcium and/or phosphate
       - Chronic renal failure or calciphylaxis
    4. **Iatrogenic** - caused by healthcare providers
       - Extravasation of calcium gluconate from IV site

- Epidermal inclusion cysts
  - Nodule in hair-bearing area with central punctum and variable size
  - Associated with Gardner syndrome
  - Require surgery to remove

Multiple Bumps

- **Molluscum**
  - 2-8 mm pearly, flesh to pink papules, often with a central divot or dell, caused by poxvirus
    - Kids with atopic dermatitis are especially prone to molluscum!
  - Very contagious children often have multiple lesions in a cluster on arms or in groin and can self-inoculate
  - **BOTE (Beginning Of The End) Sign**- molluscum lesions become red, inflamed, and angry sign the immune system is working to remove the lesions
  - Treatment: cantharidin, topical imiquimod, tretinoin, oral cimetidine