FUTURE OF PEDIATRICS TALKS!
A VIRTUAL SUMMER SERIES

Pediatric Health Network
Children's National.
Future of Pediatrics
Infantile Hemangiomas
and Port Wine Stains

July 13th, 2021

A. Yasmine Kirkorian MD
Chief, Division of Dermatology
Children’s National Hospital

No relevant disclosures
Objectives

(1) To diagnose infantile hemangiomas that require urgent referral to dermatology
(2) To review guidelines for teledermatology treatment of hemangiomas during the COVID19 pandemic and beyond
(3) To diagnose and refer port wine stains for early evaluation and laser treatment
Infantile Hemangiomas
Who gets an infantile hemangioma?

- 5-10% of all children
- Females
- Premature babies
- Multiple gestation babies
- Babies of mothers with gestation DM, HTN
- Low birth weight babies
  - Most predictive
What are some potential complications?

- Ulceration
- Disfigurement
- Cervicofacial (“beard”) hemangiomas can be a marker for subglottic and upper airway IH
- Orbital IH visual impairment, amblyopia
- Proximity to Nose/Mouth airway obstruction
- Association with underlying syndromes
  - Typically with segmental IH
Why is it critical to diagnose hemangiomas as early as possible?
Key Observations

- 65% of children in this study had a precursor lesion present at birth
- Most rapid growth between 5.5-7.5 weeks
- Other studies have shown that infants with IH are referred to specialists between 3-5 months of age
- This study supports referral by 4 weeks of age

**Take Home Point:** Early referral to dermatology is critical to have a meaningful impact on treatment
Precursor Lesions
Which hemangiomas might require treatment?
<table>
<thead>
<tr>
<th>IH Clinical Findings</th>
<th>IH Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Life-threatening</strong></td>
<td>Obstructive airway hemangiomas</td>
</tr>
<tr>
<td>“Beard-area” IH</td>
<td>Liver hemangiomas, cardiac failure, hypothyroidism</td>
</tr>
<tr>
<td>≥5 cutaneous IHs</td>
<td>Astigmatism, anisometropia, proptosis, amblyopia</td>
</tr>
<tr>
<td><strong>Functional impairment</strong></td>
<td>Feeding impairment</td>
</tr>
<tr>
<td>Periocular IH (&gt;1 cm)</td>
<td>Increased risk of ulceration</td>
</tr>
<tr>
<td>IH involving lip or oral cavity</td>
<td></td>
</tr>
<tr>
<td><strong>Ulceration</strong></td>
<td>PHACE syndrome</td>
</tr>
<tr>
<td>Segmental IH: IH of any size involving any of the following sites: lips,</td>
<td>LUMBAR syndrome</td>
</tr>
<tr>
<td>columnella, superior helix of ear, gluteal cleft and/or perineum, perianal</td>
<td></td>
</tr>
<tr>
<td>skin, and other intertriginous areas (eg, neck, axillae, inguinal region)</td>
<td></td>
</tr>
<tr>
<td><strong>Associated structural anomalies</strong></td>
<td></td>
</tr>
<tr>
<td>Segmental IH of face or scalp</td>
<td></td>
</tr>
<tr>
<td>Segmental IH of lumbosacral and/or perineal area</td>
<td></td>
</tr>
<tr>
<td><strong>Disfigurement</strong></td>
<td>High risk of scarring and/or permanent disfigurement</td>
</tr>
<tr>
<td>Segmental IH, especially of face and scalp</td>
<td>Risk of disfigurement via distortion of anatomic landmarks and/or scarring</td>
</tr>
<tr>
<td>Facial IH (measurements refer to size during infancy): nasal tip or lip (any</td>
<td>and/or permanent skin changes</td>
</tr>
<tr>
<td>size) or any facial location ≥2 cm (&gt;1 cm if ≤3 mo of age)</td>
<td>Permanent alopecia (especially if the hemangioma becomes thick or bulky);</td>
</tr>
<tr>
<td>Scalp IH &gt;2 cm</td>
<td>profuse bleeding if ulceration develops (typically more bleeding than at</td>
</tr>
<tr>
<td></td>
<td>other anatomic sites)</td>
</tr>
<tr>
<td>Neck, trunk, or extremity IH &gt;2 cm, especially in growth phase or if</td>
<td>Greater risk of leaving permanent scarring and/or permanent skin changes</td>
</tr>
<tr>
<td>abrupt transition from normal to affected skin (ie, ledge effect); thick</td>
<td>depending on anatomic location</td>
</tr>
<tr>
<td>superficial IH (eg, ≥2 mm thickness)</td>
<td></td>
</tr>
<tr>
<td>Breast IH (female infants)</td>
<td>Permanent changes in breast development (eg, breast asymmetry) or nipple</td>
</tr>
<tr>
<td></td>
<td>contour</td>
</tr>
</tbody>
</table>
Why is it important to treat hemangiomas?
Segmental Hemangiomas: PHACE & LUMBAR

Posterior Fossa Anomalies
Hemangioma
Arterial Lesions
Cardiac abnormalities/coarctation of the aorta
Eye abnormalities
Sternal cleft-supraumbilical raphe
LUMBAR Syndrome

Lower body infantile hemangiomas and other skin defects

Urogenital anomalies and ulceration

Myelopathy

Bony deformities

Anorectal malformations/Arterial anomalies

Rectal anomalies
Managing Hemangiomas During the COVID Pandemic

Group 1 (Standard risk): May consider telemedicine initiation of oral or topical beta-blocker therapy as long as infant does not have additional features listed for Group 2

- Adjusted gestational age > 5 wk
- Normal birthweight
- Recent documented weight (within 2 wk)
- Normal cardiovascular examination within previous 4 wk (including ≥ 1 documented HR after nursery discharge)
- Normal respiratory examination within previous 4 weeks
- Healthy in the 24-48 h prior to scheduled telemedicine visit (especially, no respiratory and gastrointestinal signs and symptoms
- IH pattern and distribution does not confer risk of PHACE or LUMBAR syndrome
- Lack of ulceration or minimal/superficial ulceration
- Caregiver is able to understand instructions and demonstrate comprehension (eg, by repeating instructions provided during visit)
- Multiple IH with normal liver ultrasound and without cutaneous IH conferring risks noted in Group 2

Bottom Line: Utilize telemedicine to risk stratify and even to remotely start propranolol in healthy infants > 5 weeks adjusted gestational age

CNH Dermatology Hemangioma Triage Project

- NP Gina Krakovsky is joining the Division of Dermatology
- She will also remain the coordinator for the Vascular Anomalies Clinic
  - VAC’s role is multidisciplinary evaluation and treatment of complex vascular anomalies
  - Most focal hemangiomas can be managed outside of VAC
- Goal: To triage hemangiomas for children <3 months in under 1 week via telemedicine or in-person visits
  - GK and Dr. K will review all new cases together
- Issues with access? Email gkrakovs@childrensnational.org or akirkori@childrensnational.org
Nevus simplex

- Extremely common and NON-syndromic
- Midline location
- LIGHTEN over time
- Overlying atopic dermatitis frequently (Meyerson phenomenon)

Case

• A full-term newborn with a large red patch involving the right half of the face comes to your clinic for their first newborn visit.

• Diagnosis?
Capillary Malformation (Port Wine Stain)

Port wine stain/birthmark

Fully formed at birth

Do not proliferate however they may thicken over time (adulthood)

Facial CM may be associated with underlying gingival and bony hypertrophy

Pulsed Dye Laser for PWS

- Pulsed dye laser is the gold standard treatment for PWS
- PDL should be initiated as early as possible→ ideally first WEEKS of life
- Local vs. general anesthesia is controversial. Prospective studies in the pediatric anesthesia literature support the safety of GA
Questions?

akirkori@childrensnational.org