FUTURE OF PEDIATRICS TALKS!

A VIRTUAL SUMMER SERIES

Pediatric Health Network

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Future of Pediatrics Infantile Hemangiomas and Port Wine Stains

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No relevant disclosures

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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

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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?

PMID: 22826568

Key Observations

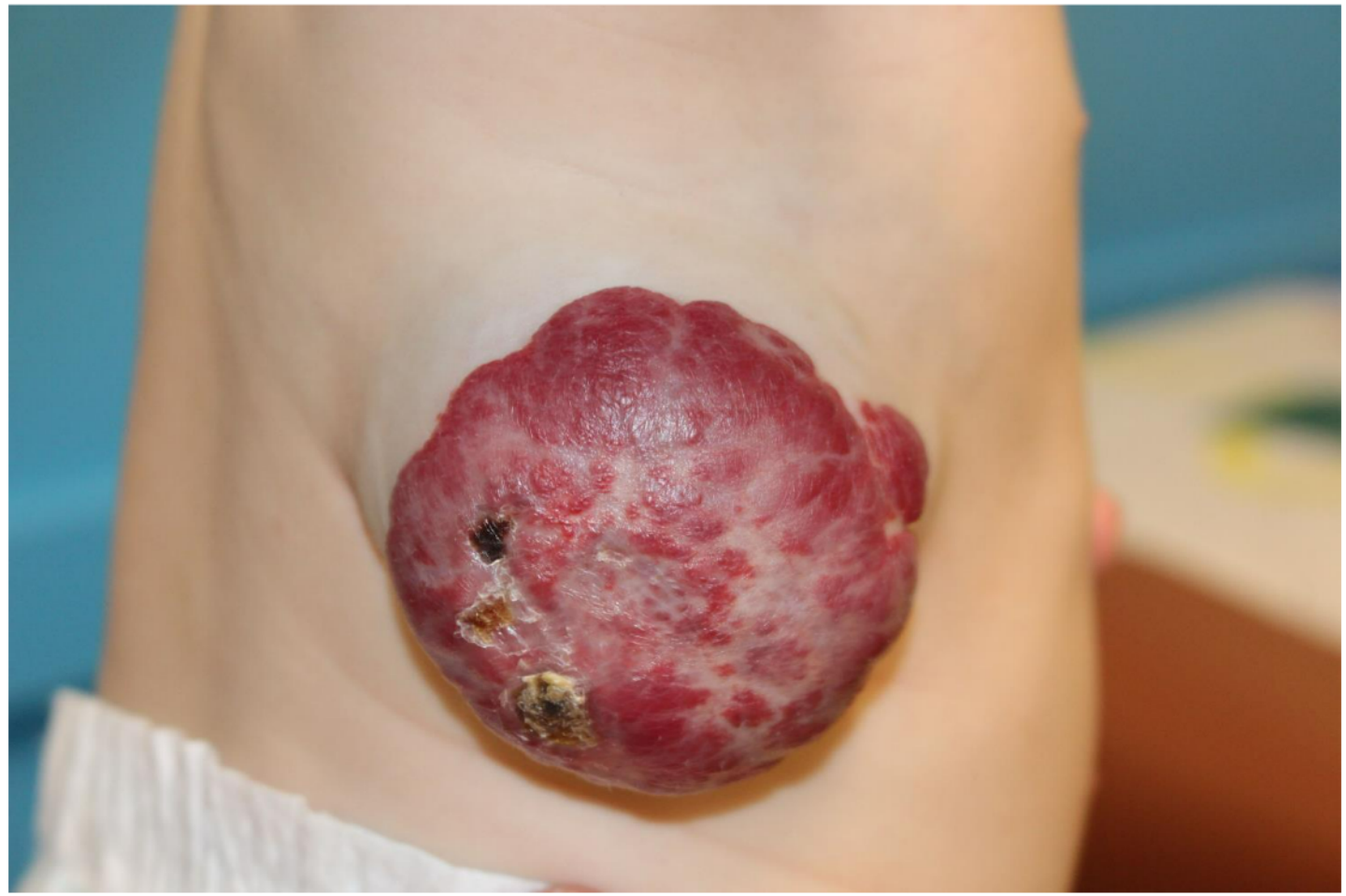
- 65% of children in this study had a precursor lesion present AT BIRTH
- Most rapid growth between 5.5-7.5 weeks
- Other studies have shown that infants with IH are referred to specialists between 3-5 months of age
- This study supports referral by 4 weeks of age

Take Home Point: Early referral to dermatology is critical to have a meaningful impact on treatment

Precursor Lesions

Which hemangiomas might require treatment?

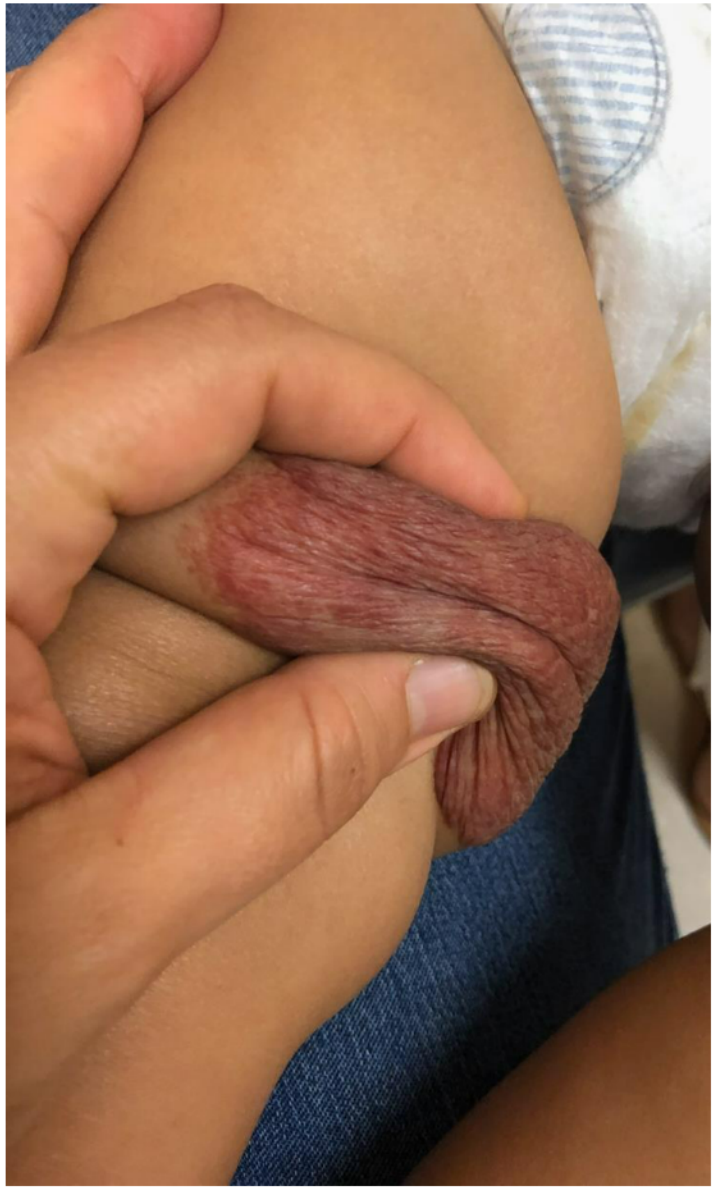
IH Clinical Findings	IH Risk
Life-threatening	
"Beard-area" IH	Obstructive airway hemangiomas
≥5 cutaneous IHs	Liver hemangiomas, cardiac failure, hypothyroidism
Functional impairment	
Periocular IH (>1 cm)	Astigmatism, anisometropia, proptosis, amblyopia
IH involving lip or oral cavity	Feeding impairment
Ulceration	
Segmental IH: IH of any size involving any of the following sites: lips, columella, superior helix of ear, gluteal cleft and/or perineum, perianal skin, and other intertriginous areas (eg, neck, axillae, inguinal region)	Increased risk of ulceration
Associated structural anomalies	
Segmental IH of face or scalp	PHACE syndrome
Segmental IH of lumbosacral and/or perineal area	LUMBAR syndrome
Disfigurement	
Segmental IH, especially of face and scalp	High risk of scarring and/or permanent disfigurement
Facial IH (measurements refer to size during infancy): nasal tip or lip (any size) or any facial location ≥2 cm (>1 cm if ≤3 mo of age)	Risk of disfigurement via distortion of anatomic landmarks and/or scarring and/or permanent skin changes
Scalp IH >2 cm	Permanent alopecia (especially if the hemangioma becomes thick or bulky); profuse bleeding if ulceration develops (typically more bleeding than at other anatomic sites)
Neck, trunk, or extremity IH >2 cm, especially in growth phase or if abrupt transition from normal to affected skin (ie, ledge effect); thick superficial IH (eg, ≥2 mm thickness)	Greater risk of leaving permanent scarring and/or permanent skin changes depending on anatomic location
Breast IH (female infants)	Permanent changes in breast development (eg, breast asymmetry) or nipple contour



Kryatova MS et al. Pediatr Dermatol. 2016 Nov;33(6):652-658.


MISE EN GARDE
DO NOT place rear-facing child seat on front seat with air bag
DEATH OR SERIOUS INJURY CAN occur.
The back seat is the safest place for children 12 and under.

Why is it important to treat hemangiomas?



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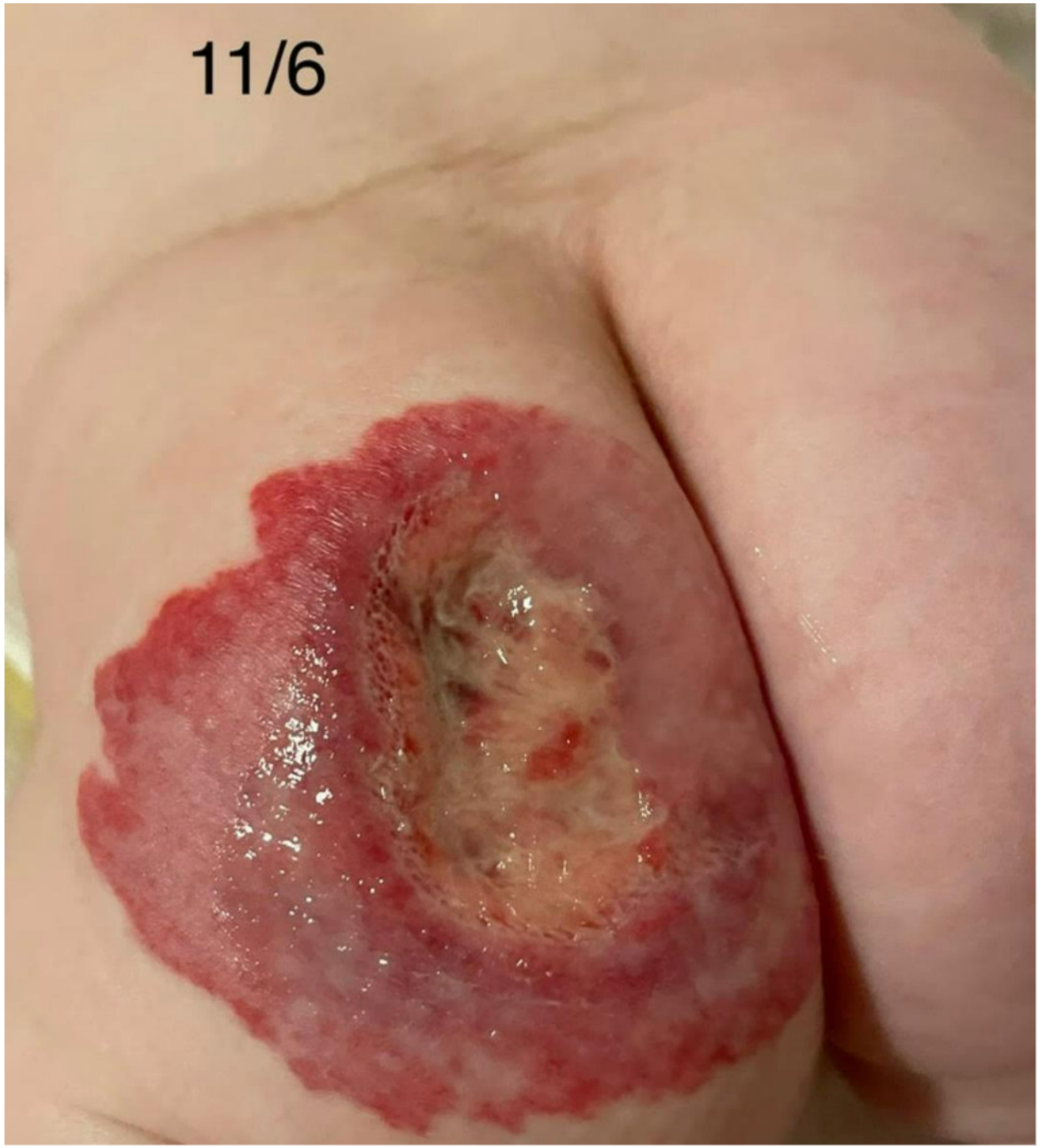
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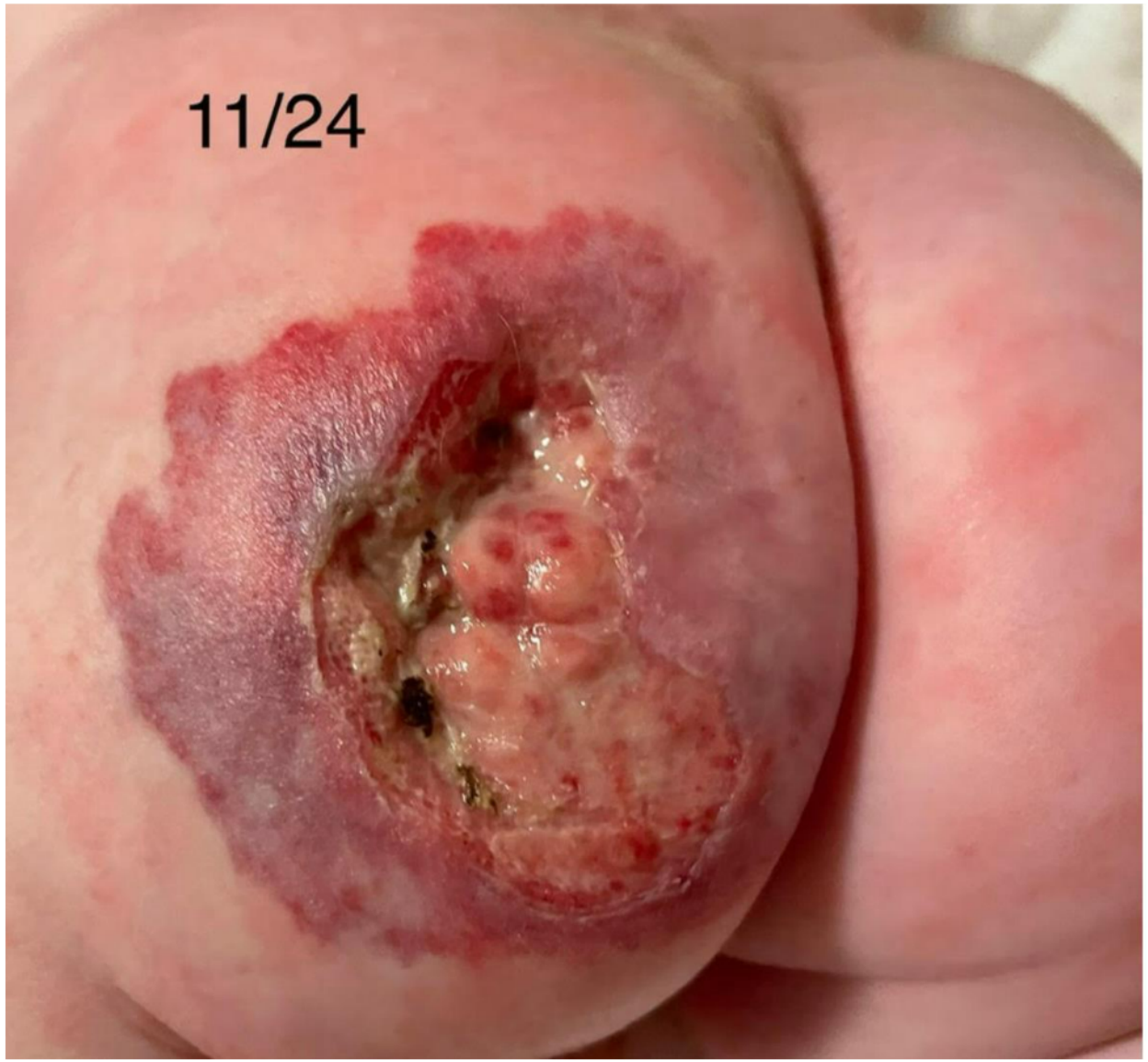
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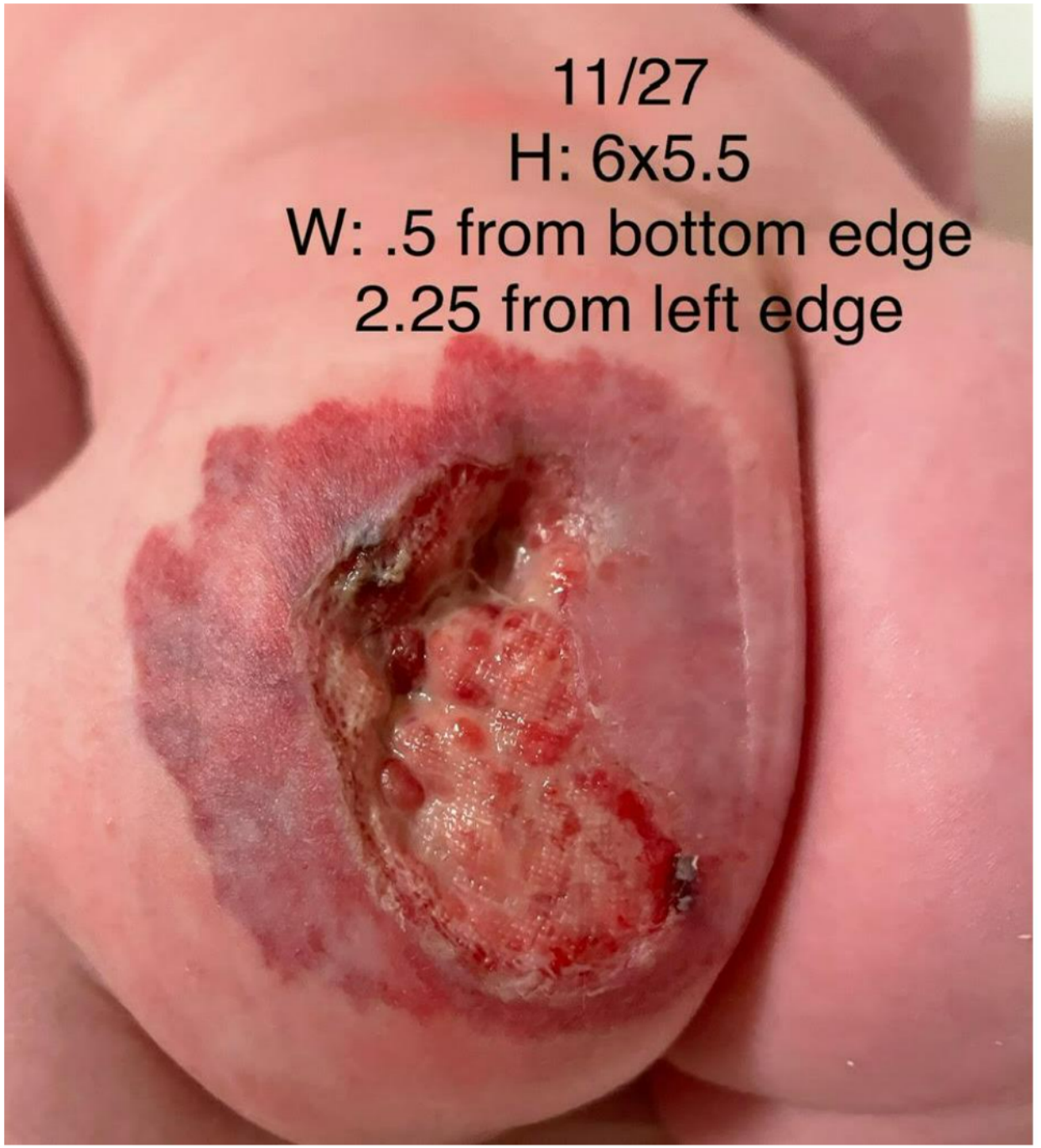
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H: 6x5.5
W: .5 from bottom edge
2.25 from left edge

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Segmental Hemangiomas: PHACE & LUMBAR

Posterior Fossa Anomalies

Hemangioma

Arterial Lesions

Cardiac abnormalities/coarctation of the aorta

Eye abnormalities

(S)ternal cleft/supraumbilical raphe

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LUMBAR Syndrome

Lower body infantile hemangiomas and other skin defects

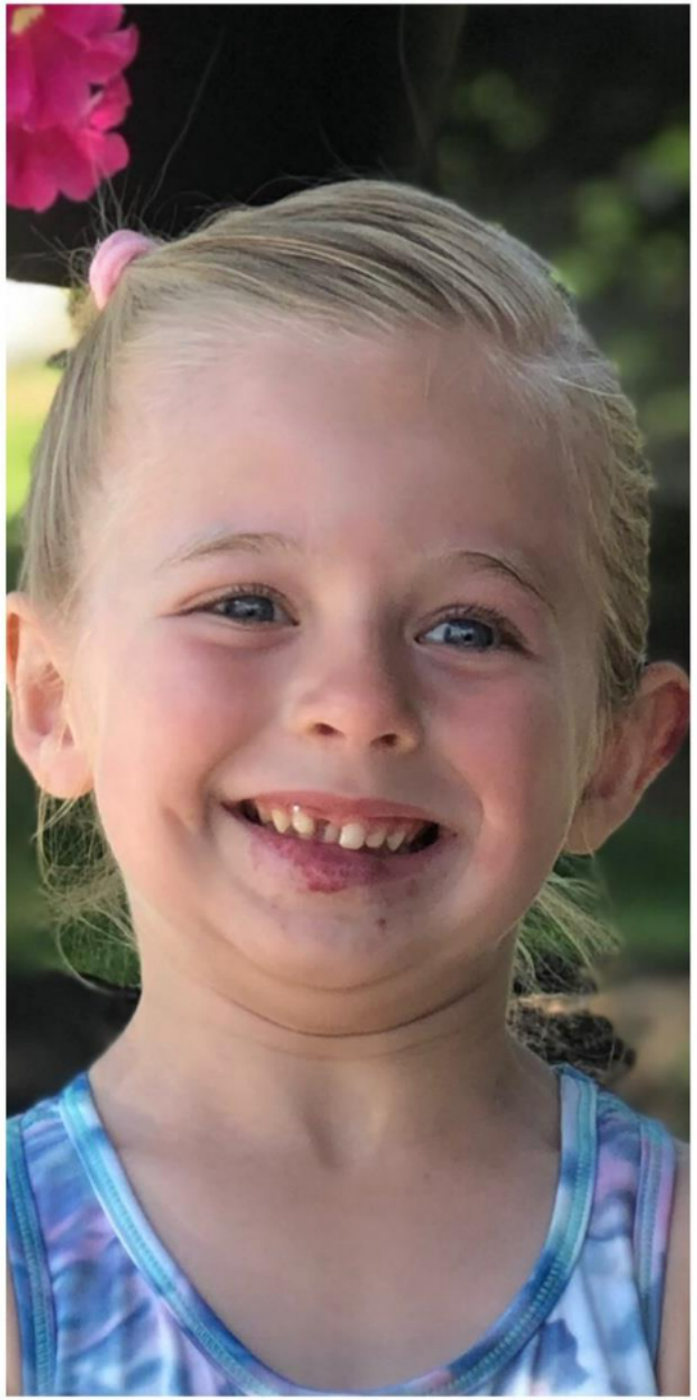
Urogenital anomalies and ulceration

Myelopathy

Bony deformities

Anorectal malformations/Arterial anomalies

Rectal anomalies

HOPE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Managing Hemangiomas During the COVID Pandemic

Group 1 (Standard risk): May consider telemedicine initiation of oral or topical beta-blocker therapy[a] 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

Frieden I et al. Management of infantile hemangiomas during the COVID pandemic. Pediatr Dermatol. 2020 May;37(3):412-418.

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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

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Nevus simplex

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

Pediatr Dermatol. 2016 Nov;33(6):570-584.

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

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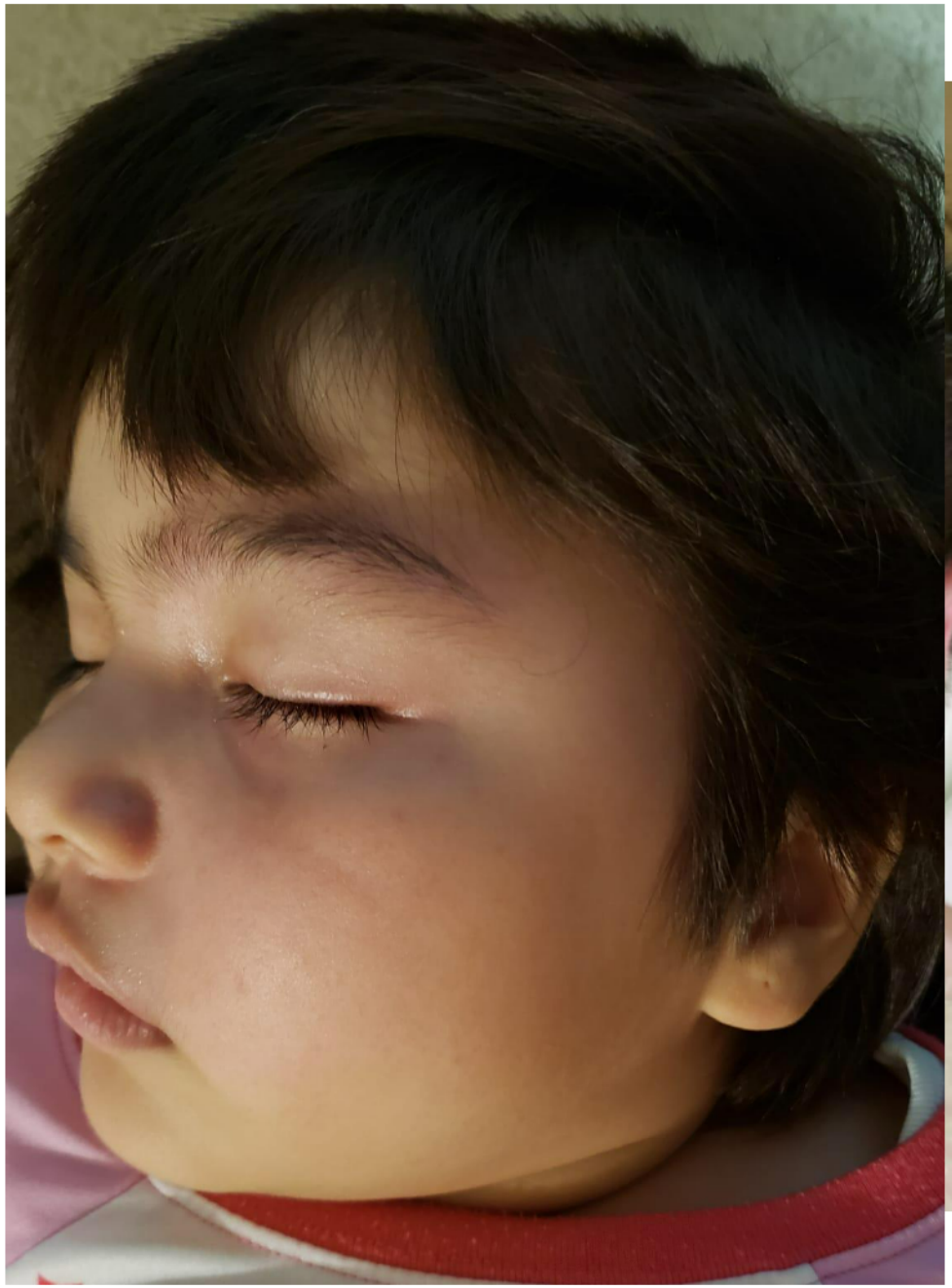
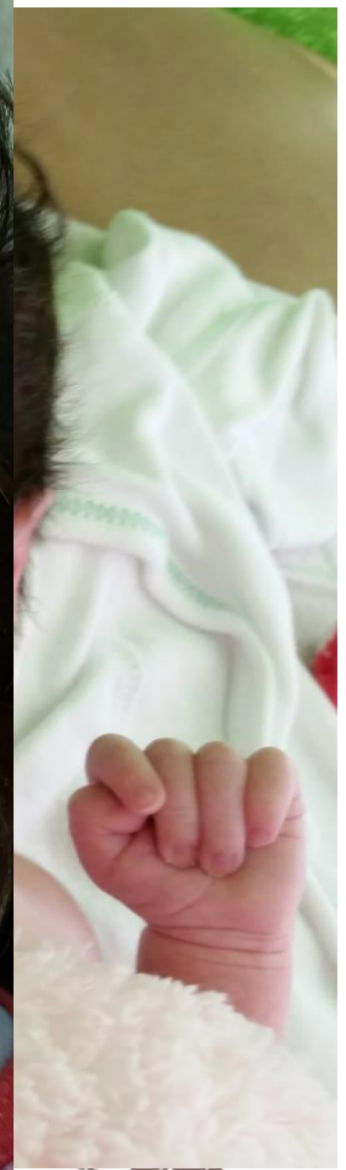
Pediatr Dermatol. 2016 Nov;33(6):570-584.

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





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Questions?

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