Pediatric Dermatology Review

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Nevi in children

Outline
- Types of melanocytic nevi in children
  - Definitions/epidemiology
  - Clinical presentation
  - Natural History/Complications – when to worry
- Prevention strategies for melanoma
- Indications for treatment
- Treatment
  - Medical/Minimally Invasive Options
  - Surgical
    - Serial Excision
    - Skin Grafting
    - Skin Substitutes
    - Tissue Expansion
  - Medical

Melanocytic nevi in children
- Benign acquired melanocytic nevus
  - Special locations: scalp, acral, nail
- Atypical nevus
- Spitz nevus
- Congenital nevus
- Melanoma

Benign Acquired Nevus
- Develop from birth to age 40
- Epidemiology:
  - mean number of nevi >2mm = 2.3 in white children
  - 0.8 if one parent non-white
  - More common in fair skinned children
  - More common with increased sun exposure
  - English children 35% had 1 by age 1
- Maturation
  - Junctional→compound→dermal→resolution
- Annual rate of transformation <0.0005%

Special locations
- Labial/scrotal
- Nail matrix
- Acral surfaces
- Scalp
Nail matrix nevi

- Cause melanonychia
- Worrisome features:
  - A=age (most 5th-7th decade)
  - B=brown/black band >3mm, blurred borders
  - C=change, increasing size – wide at base
  - D=digit – only 1, most common thumb, great toe
  - E=extension onto nail folds
  - F=family history of melanoma

Blue nevi

- Dermal nests of melanocytes
- Depth of melanocytes gives a blue hue

Atypical nevus

- Present at puberty or young adulthood
- Irreg color, texture, border irregularity
- Size >6-15mm
- Monitor every 6-12 mo
- Photography

Spitz nevus

- Benign juvenile melanoma
- Primarily seen in children
- Smooth surfaced, dome shaped
- Usually solitary
- 0.6-1 cm
- Characteristic pathology
  - Spindle and epitheliod cells
  - Kamino bodies, may have pagetoid spread, lymphatic invasion

Halo nevi

- Often seen prior to regression
- Likely due to immunologic destruction of nevus cells
- Excise only if center is atypical

www.dermatlas.com
Congenital Nevi

- Present at birth
- Often flat and may be light
- Difficult to distinguish from CALM
- 1-2% of newborns (1:20,000 for giant)
- Change over time
  - Thicken
  - Verrucous surface
  - Hypertrichosis

Congenital Nevi

- Classification
  - Small <1.5cm
  - Medium 1.5-20cm
  - Large >20cm
  - 9 cm on an infant’s head and 6 cm on an infant’s body
- Often with satellite nevi
- Pathology
  - Dermal or compound
  - Nests deeper in dermis
  - Track along skin appendages

Melanoma in children

- Increased risk with:
  - Blistering sunburns – intermittent strong sun
  - Use of tanning bed
  - Family history
  - Type 1 skin
  - Increasing age
  - (most common cancer in young adults 25-29 in US)
  - Immunosuppression
  - XP, Atypical nevi
- Prevention: photoprotection – 50% reduction in melanoma in randomized trial with sunscreen given for 5 yrs

Incidence rates of malignant melanoma in children and young adults stratified by age, sex, and race from the Surveillance, Epidemiology and End Results 9 database (1973 to 2001).

ABCD of Pediatric melanoma

- **A** = Amelanotic
- **B** = Bleeding, Bump
- **C** = Color uniformity
- **D** = De novo, any Diameter

Summary: Nevi

- Melanoma is rare in children esp before puberty
- Photoprotection does make a difference
- Certain patterns of nevi are common
  - Blue, halo, eclipse (scalp)
  - Spitz nevi are more common than melanoma
  - Majority are benign
- Stable small/med congenital nevi do not require removal
- When to worry:
  - Changing, bleeding, friable, irregular nevi
  - Eccentric changes in congenital nevi or nodules within area
  - Giant congenital nevus esp with satellites

Infantile Hemangiomas

- Generally not present at birth
  - Perhaps faint pallor or bruise like appearance
- Grow beginning in first few weeks – for about 6 mo
- Risk factors: female, preterm, low birth weight
- Causes: Unclear
  - Hypoxia-associated factors
  - Somatic mutation
  - Hyper-reactivity of endothelial-type cells
- NOT a vascular malformation
  - May have superficial and deep components

When to worry, when to treat

- Concerning locations
  - Periocular
  - Lip
  - Groin
  - Nasal tip
- Large and ulcerating
- Beard area
- Segmental facial
- Multifocal
PHACES

- Posterior fossa malformations present at birth.
- Hemangioma
- Arterial lesions – Abnormalities of the blood vessels in the neck or head.
- Cardiac abnormalities/aortic coarctation – These are abnormalities of the heart or the blood vessels that are attached to the heart.
- Eye abnormalities.
- Sternal Defects

Multifocal Hemangiomas

- May have visceral involvement
  - Liver, GI tract
- Can develop consumptive hypothyroidism
- May show cardiac complications

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Treatment

- Time
- Protect and grease ulcerating hemangiomas
- Topical timolol
  - GTT:
  - Propranolol
    - Begin 0.5mg/kg
    - Titrate up every 7 days by 0.5mg/kg
    - Goal dose 1.3mg/kg
    - Monitor heart rate
    - Give with feeds and hold when sick to prevent hypoglycemia
- Intralosional or systemic steroids
- Surgery/laser for residual changes