16383

Early medical treatment with propranolol for Cyrano nose could lessen the psychological burden on patients and families and reduce health care costs

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Infantile hemangiomas (IH) are the most common vascular tumors of infancy. Characterized by a proliferative phase and an involution phase, most hemangiomas will ultimately regress over time. Regression does not, however, infer complete return to normal skin and underlying tissues. Current standard of care is medical treatment of hemangiomas that compromise a vital organ, ulcerate, impair function or grow rapidly. IHs may rarely involve the tip of the nose causing a globular, bulbous appearance of the nasal tip, termed Pinocchio or "Cyrano" nose (CN). Due to the well documented slow regression pattern and high risk of disfigurement or scarring secondary to infiltration of the underlying cartilaginous structures, CN was historically treated surgically more than IHs at other anatomic sites. Previously employed medical approaches including systemic steroids, interferon, laser or cryotherapy demonstrated limited efficacy and had significant side effects. Since the dramatic response of classic IH to systemic propranolol was first reported in 2008, this medical management has emerged as a standard of care therapeutic option for complex IH including CN. There exists limited published data focused specifically on treating CN with propranolol. The purpose of this review is to summarize the experience treating CN at the UTHealth Vascular Anomalies Clinic. Delaying medical treatment of CN with propranolol due to lack physician awareness can potentially lead to costly surgical procedures with detrimental psychological impact on childhood and an economic burden on families and the health care system. Comparison of the cost of medical versus surgical intervention of CN will be outlined.

Commercial disclosure: None identified.

16396

Histopathology of pediatric nevi at an academic institution

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Background: Pigmented lesions are common referrals at pediatric dermatology clinics. There is a high biopsy rate of nevi among children and adolescents despite the low incidence of melanoma, though data from academic centers have not been reported.

Methods: Electronic records of the Dermatopathology Unit at the Massachusetts General Hospital were queried from 1/1/1998 to 12/31/2018 for cases with "skin" and "nevus," "melanocytic," or "melanoma" in patients under 20 years of age.

Results: During the 20-year period, 4873 pigmented lesions were diagnosed. Of these, 2592 (53.2%) were in females and 2281 (46.8%) in males. Average age at diagnosis was 15.4 years (SD = 3.5); 7% of these cases were sampled in childhood (age <11 years) and 93% in adolescence. Dysplastic nevi were diagnosed in 1022 (21%) of cases, and congenital features were reported in 1361 nevi (27.9%). Spitzoid proliferations (including Spitz nevi and atypical Spitz tumors) comprised 112 cases (2.3%). Melanoma was diagnosed in 84 cases (1.7%) and borderline/indeterminate lesion in 27 cases (0.6%). Number of cases needed to diagnose one case of melanoma was 58, though this data is skewed by a referral population such that only 19.0% of pediatric melanoma cases were biopsied within our institution.

Discussion: A lower number of biopsies needed to identify a melanoma is expected at a referral center. A better understanding of the relative frequencies of dysplastic, congenital, and spitzoid proliferation diagnoses, along with clinical features associated with these diagnoses, may serve to better understand the natural history of nevi and pigmented lesions in the pediatric population.

Commercial disclosure: None identified.

16403

Therapeutic challenges in managing pediatric psoriasis

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Psoriasis is a systemic immune-mediated chronic disease that can negatively affect the quality of life of affected children and their families. Pediatric patients face unique challenges in receiving adequate care for psoriasis. While the incidence of both pediatric and adult psoriasis is rising, when compared with the expanding treatment options for adults, the relatively limited number of FDA-approved medications for children promotes off-label use of older and less effective medications. Furthermore, guidelines on the therapeutic approach to moderate to severe psoriasis in children are limited. This summary highlights current challenges that arise when treating pediatric patients with psoriasis, especially those under 12 years of age. Five medications are FDA approved for treatment of pediatric chronic plaque psoriasis. Topical treatments including steroids and vitamin D analogues are first line. Calcipotriene and betamethasone foam, topical suspension, and calcipotriene foam alone are the only FDA approved medications for patients 12 and over. Refractory, moderate, and severe disease warrants systemic therapy with biologic agents. The two biologics approved for use in pediatric populations are etanercept (approved in 2016 for children 4 and older) and ustekinumab (approved in 2017 for children 12 and older). Much progress is needed to expand the therapeutic options for pediatric psoriasis. Paucity of research is an obstacle impeding this goal. With more approved treatments, such as the pending approval of calcipotriene foam in patients ages 2-11, the prognosis for pediatric psoriasis management as well as physiologic and psychosocial comorbidities associated with the disease might be mitigated.

Commercial disclosure: None identified.

16416

Cutaneous wounds and wound infection affect cognition and behavior in mice

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Associated depression and cognitive disorders contribute to poor outcomes in patients with chronic wounds. Here we ask the question: does skin dysbiosis as evidenced by chronic infection in the wound alter cognition and behavior, just as altered microbiota of the gut does? The main goals are to test the hypothesis that wounding and wound infection contribute to cognitive impairment and depressive behaviors in mice with skin wounds infected with Pseudomonas aeruginosa, a common wound pathogen. Wounded, wounded/infected, or unwounded control C57Bl mice were examined using the forced swim test for depressive behavior, the light/dark box test for anxiety, and the novel object recall test for decreased recognition memory. Wounded animals exhibited higher level of depressive behavior, increased anxiety, and decreased cognition (recognition memory) relative to unwounded animals. Animals with infected wounds had similarly increased depressive behavior and anxiety, as well as altered cognition, relative to unwounded animals. We probed the animals' hippocampi using qPCR for mediators to investigate a possible pathogenic mechanism for the observed behavioral changes. Expression of NOD1, NOD2, (Nod-like receptors that are intracellular sensors of pathogen-associated molecular patterns), NR3C1, NR3C2t (glucocorticoid receptors), and cytokines IL-10 and TNF-α were elevated. These changes were present in the brains of both the wounded and the wounded/infected animals, though the magnitude of change was higher in the wounded/infected animals. Understanding the contribution of the skin-microbiota-brain axis to cognitive function may provide novel approaches to improve outcomes of patients with chronic, infected wounds.

Commercial disclosure: None identified.