

Age, socioeconomic status, race, and congenital nevus excision

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Background: Excision of congenital nevi is recommended for cosmetic¹ benefit, as well as for malignancy prophylaxis.^{2,3,4} As the lesions grow with the children, excisions at a younger age may be technically easier. The authors examined patterns in congenital nevus excision.

Methods: HCUP-KID, the largest publicly-available pediatric inpatient all-payer database, was queried for patients with diagnoses of congenital nevi and procedure codes indicating excisions between 2000-2012. Regression models were used, with significance <0.05.

Results: One thousand three hundred and six discharges were found, of patients of average age 5.2±5.2 years. Six hundred seventy-seven patients (53.7%) were female; 54.9% were Caucasian. Using a linear model to predict age, controlling for gender, race, private insurance, high income quartile, and hospital region, white race (-1.53 years, p<0.0001) and median household income in the highest quartile (-0.96 years, p=0.044) were significant. In binary logistic regressions controlling for gender, race, private insurance, high-income quartile, and region, increasing age was associated with fewer local excisions (OR 0.97, 0.94-0.99) and less tissue expander use (OR 0.96, 0.92-0.99) and more radical excisions (OR 1.05, 1.02-1.08) and graft use (OR 1.07, 1.04-1.10). Forty-four patients had complications, including 29 infections and 12 hemorrhages/hematomas. In a binary logistic regression controlling for gender, race, private insurance, region, excision type, age, and zip-code income quartile, local and radical excision were less likely to be associated with complications versus tissue expanders, flaps, and grafts (OR 0.11, 0.03-0.45 and OR 0.19, 0.04-0.85, respectively). Southern location was associated with complications (OR 5.15, 1.23-20.69). There were zero complications in the northeastern region versus 27 in the south and 13 in the west. Patients with complications had longer hospital stays (6.18±8.05 versus 1.88±2.14, p <0.001) and higher hospital charges (\$43,662.08±61,214.37 versus \$19,777.82±16,516.34, p <0.001).

Conclusions: Patient age at presentation drives selection of excision type for congenital nevi. Certain excision types are higher risk. As patient age at presentation is associated with socioeconomic and demographic factors, non-white and poorer patients may be at increased risk for complications following excision of congenital nevi. This study was limited by the lack of lesion size information available in the database; however it is the first study to examine management of congenital melanocytic nevi on a national scale.

¹ Masnari O, Landolt MA, Roessler J et al. Self- and parent-perceived stigmatization in children and adolescents with congenital or acquired facial differences. *J Plast Reconstr Aesthet Surg.* 2012;65: 1664-70. doi: 10.1016/j.bjps.2012.06.004.

² Arneja JS, Gosain AK. Giant congenital melanocytic nevi. *Plast Reconstr Surg.* 2009; 124: 1-13e. doi: 10.1097/PRS.0b013e3181ab11be.

³ Marghoob AA, Schoenbach SP, Kopf AW, Orlow SJ, Nossa R, Bart RS. Large congenital melanocytic nevi and the risk for the development of malignant melanoma: A prospective study. *Arch Dermatol*. 1996;132: 170-5.

⁴ Tannous ZS, Mihm MC, Sober AJ, Duncan LM. Congenital melanocytic nevi: Clinical and histopathologic features, risk of melanoma, and clinical management. *J Am Acad Dermatol*. 2005;52: 197-203.