Surgical Management of Large and Giant Congenital Pigmented Nevi of the Lower Extremity

Reference:

Scientific Literature Review

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Podiatric Relevance:
This study provides a current approach to the management of large and giant congenital pigmented nevi of the foot and lower extremity.

Methods:
Fifty cases of lower extremity large and giant congenital nevi between 1980 and 2006 were reviewed. The subjects were between the ages of 1 and 19 with nevi not amenable to direct excision and closure. Large congenital nevi were classified as those with a diameter greater than 10 cm and giant congenital nevi were classified with a diameter greater than 20 cm. An algorithm for treatment of large and giant congenital nevi was developed for the thigh, knee, leg, and foot. The algorithm directed coverage of the defect with a choice of split thickness and full thickness skin grafts, local flaps, expanded flaps or grafts, expanded pedicle flaps, and free tissue transfer.

Results:
In regards to the dorsum of the foot, a full-thickness non-meshed skin graft obtained from the groin is best suited for children. A split-thickness skin graft may be used on adult feet. This study recommends immobilization of the digits utilizing Keith needles in children or Kirschner wires in adults to avoid shearing of the graft by the extensor tendons. If the extensor tendons are sacrificed, the foot is splinted in dorsiflexion to avoid foot drop. Nevi located within the first interdigital web space may best be monitored clinically as skin grafting may cause contracture deformity. Excision of nevi to the sole of the foot must be weighed against functional impairment and may be monitored clinically if the lesion lacks atypia. Contrary to the dorsum of the foot, nevi excision of the sole of the foot does not require excision of subcutaneous tissues to the level of the fascia. Defects to the sole of the foot are repaired utilizing full-thickness skin grafts.

Conclusions:
As congenital pigmented nevi are a risk factor for developing malignant melanoma, complete excision is the paramount option for treatment. This study provides a current algorithm for the excision of congenital nevi utilizing skin grafting for the dorsum and sole of the foot. A non-meshed full-thickness skin graft should be used for the dorsum of the foot. A full-thickness skin graft is utilized for the sole of the foot. An alternative for weight-bearing surfaces of the sole of the foot is to utilize an instep flap.