Giant congenital melanocytic naevi: definition, malignant transformation and treatment modalities
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Chapter 1

General introduction
The Problem

A congenital melanocytic naevus (CMN) is a benign proliferation of cutaneous melanocytes, which is clinically apparent at birth or becomes so within the first postnatal weeks. Since the size of CMN influences the psychological, cosmetic and oncological outcomes and the treatment options, there is a need to subdivide these lesions into clinically significant subgroups. Subclassification of CMN has been a matter of debate, and consensus has not yet been reached. Differences between classifications used by various authors continue to pose an impediment to the comparison of clinical studies from different centres. Besides cosmetic reasons, one of the most important indications for surgical intervention is the prevention of malignant transformation. Over the years the expected chance of malignant transformation varies in the literature from 1-31%. This variance is partly caused by the bias of retrospective studies and above all by lack of consensus for defining GCMN. Still there is a need to inform patients and parents more accurately concerning malignant transformation and the therapeutic options. Therapeutic options are influenced by age of the patient, location and size of the GCMN, wishes of the parents and, for an important part, by the experience of the specialist.

Since consensus based on objective criteria is lacking concerning the treatment of GCMN, there is a need to describe treatment results of larger groups in specialised centres objectively, in particular in respect to if, how and when they should be treated. Patients and their families want to be informed concerning the aetiology and familial aspects of CMN. Unfortunately little is known about these aspects and there is an urgent need to inform parents more properly. We described a few families with CMN-patients and lined out the features known about their familial preponderance. More genetic research, however, is needed.

The Difficulties

Primarily CMN is a clinical diagnosis. Histologically, it is difficult to distinguish them unequivocally from acquired melanocytic naevi. So in the absence of a history of the presence of the lesion at birth, the congenital nature of a pigment naevus in general cannot be established with certainty. Some GCMN may present as tumours with alarming clinical aspects. This combined with the fact that early biopsies of GCMN may show many microscopic features also present in melanoma in older patients, an erroneously diagnosis of malignancy may be made. The confusing features include at least the following: (1) presence of intraepidermal isolated or grouped epithelioid melanocytes at all levels simulating superficial spreading melanoma,
and (2) appearance of proliferative dermal nodular collections of epithelioid and spindle-shaped cells, occasionally heavily pigmented, suggesting nodular melanoma. 9
In addition to this, GCMN may present with ulcerated areas and/or include grossly visible polypoid exophytic tumours of different size. GCMN may represent the surface component of a rare congenital disorder known as neurocutaneous melanosis (NCM), characterised by the presence of GCN and benign or malignant pigment cell tumours of the leptomeninges and can be accompanied by increased intracranial pressure, hydrocephalus and seizures, which may carry a poor neurological prognosis.10-12
Continued debate focuses on the life-time risk of malignant transformation and on the optimal treatment of GCMN. There is no doubt that an increased risk of malignant transformation exists, but there is substantial disagreement about the magnitude of this risk. Only a prospective nation-wide study of untreated patients could provide us with realistic percentages of malignant transformation of GCMN. This of course is not feasible and we can only try to give an estimation of the chance of malignant transformation with larger nation wide retrospective studies. Not only the risk of malignant transformation of CMN, but also its effect on the patient’s appearance, has a negative impact on the well-being and the psychological development of the patient, especially in case of large CMN. This also constitutes a very important consideration in the decision for treatment and timing of treatment.

The aim
1. To propose an universal definition for GCMN, based on literature and clinical aspects.
2. To provide clarity concerning the risk of malignant transformation of (G)CMN in the Netherlands.
3. To provide guidance in the choice of the optimal treatment for GCMN.
4. To look for genetic factors in familial GCMN.
References