

A GIANT PIGMENTED NEVUS WITH INVASION INTO UMBILICAL CORD

W. B. Reed, W. Snyder and R. E. Horowitz

From the Department of Dermatology, St. Joseph's Hospital, Burbank, Calif., USA

Abstract. A report is given of a giant nevus of the abdomen with extension for several centimeters up the umbilical cord. The high incidence of malignant transformation to malignant melanoma of the giant pigmented nevus is stressed, and the possibility in this case that the umbilical cord could transport nevus cells to the placenta is discussed.

The giant pigmented nevus is important because of its high incidence of malignant transformation to malignant melanoma (4, 6) (up to 10% in one long-range series) and its leptomenigeal melanocytosis with primary melanomas of the hair (6). Holaday & Castrow (5) reported the first case of metastasis of a giant pigmented nevus to the placenta.

The present report is of a giant nevus of the abdomen with extension for several centimeters up the umbilical cord.

CASE REPORT

A white female infant, born October 22, 1971, presented a large, distinctly delineated, uniformly dark brown, smooth-surfaced and pigmented lesion covering the lower abdomen, and had the umbilicus at its center (Fig. 1). The pigmentation extended in a stippled pattern for a distance of 3.5 cm along the umbilical cord. The remainder of the cord and the placenta were normal in appearance. A few small, flat-surfaced pigmented nevi were present on the thighs and legs. Physical examination revealed no other abnormalities. Birth weight was 3.42 kg (7 lb. 8½ oz.). General health, growth and development have been normal. The nevus has grown in proportion to the infant's size. The patient is the only child of Latin-American parents. Her mother, age 30, had a normal uneventful gestation and delivery at term. There is no familial history of large or numerous moles. The dried umbilical cord was saved by the parents and was later rehydrated and stained with surprisingly excellent resolution of the tissue. A biopsy of the nevus was taken. The umbilical cord was sectioned and stained with hematoxylin and eosin and later decolorized because the nevus cells were heavily pigmented.

Microscopic examination of the abdominal nevus (Fig. 2) revealed an intact and unremarkable epidermis with no increase in basal melanocytes and no junctional activity. The upper dermis contained nests of heavily pigmented nevus cells and interspersed pigment-laden macrophages. Bleached sections revealed no suggestion of malignancy.

Sections of the desiccated and rehydrated umbilical cord, although suffering from denudation of the surface epithelium, contain nests of heavily pigmented nevus cells, pigment-laden macrophages, as well as some free pigment in Wharton's jelly (Fig. 3).

COMMENT

In this case the important point is that the umbilical cord can transport nevus cells to the placenta. Nevus cells thus transported to the placenta of the patient of Holaday & Castrow (5) were, nevertheless, benign. By contrast, mothers have been reported with melanoma with transplacental metastasis to the fetus (1, 2) but no reported melanoma from the baby to the mother. More than 8 babies have been born with melanoma of the nevi (6), and one with metastasis (7).

The diagnosis of melanoma in a newborn is difficult because the nevus cells are usually still not mature.

The placenta was not reported to be invaded in any of these patients.

Our patient had the umbilicus in the center of the giant nevus, whereas the patient of Holaday & Castrow did not show any involvement of the abdomen. Thus the nevus cells were either from the umbilicus to the placenta, or from nevus cells released in the placental fluid which grew in the stroma of the chorionic villi. They did not report any nevus cells in the umbilicus.

Questions are always asked regarding the giant pigmented nevus: how large is a giant nevus, the incidence of malignancy, the chances for leptomenigeal involvement with perhaps later involve-

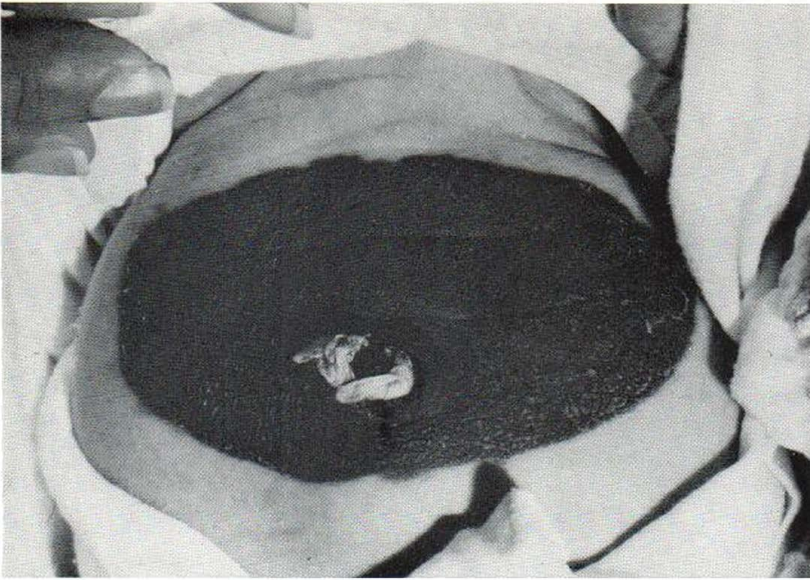


Fig. 1. Giant pigmented nevus of mid-abdomen of newborn infant.

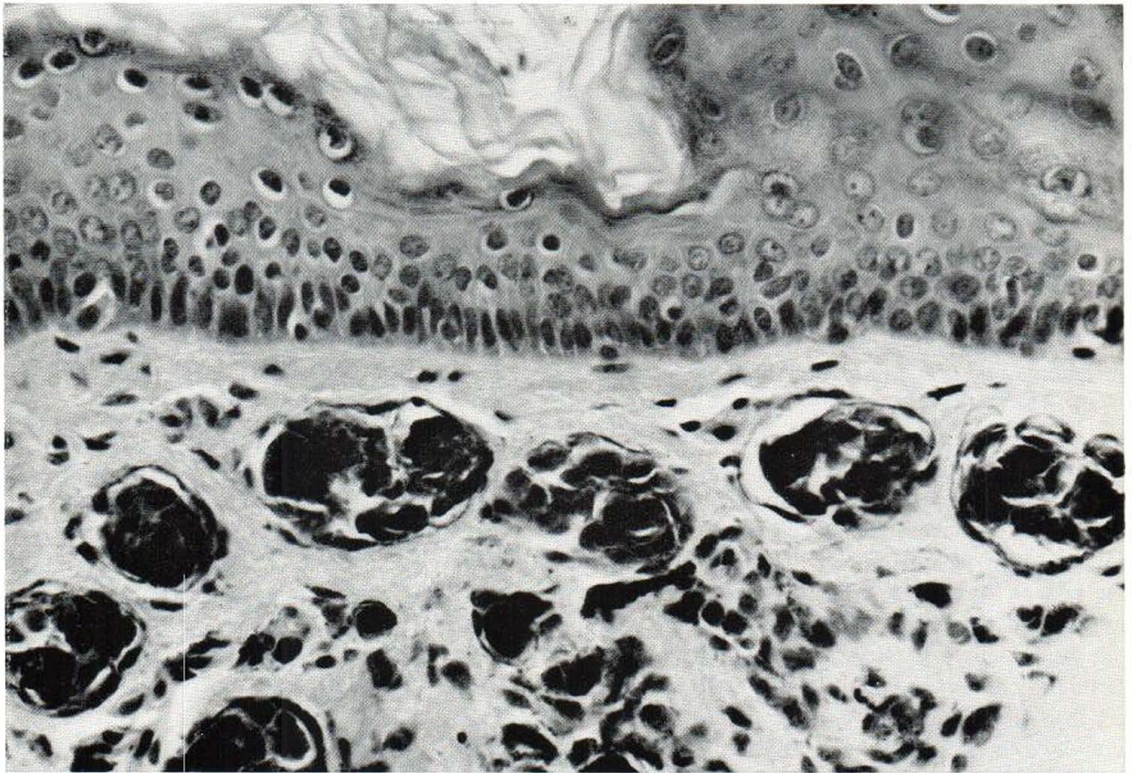


Fig. 2. Biopsy of giant pigmented nevus of abdomen. Nevus cells are present in the upper and mid-dermis with

no epidermal involvement. Hematoxylin and eosin. Original magnification $\times 351\ 560$.

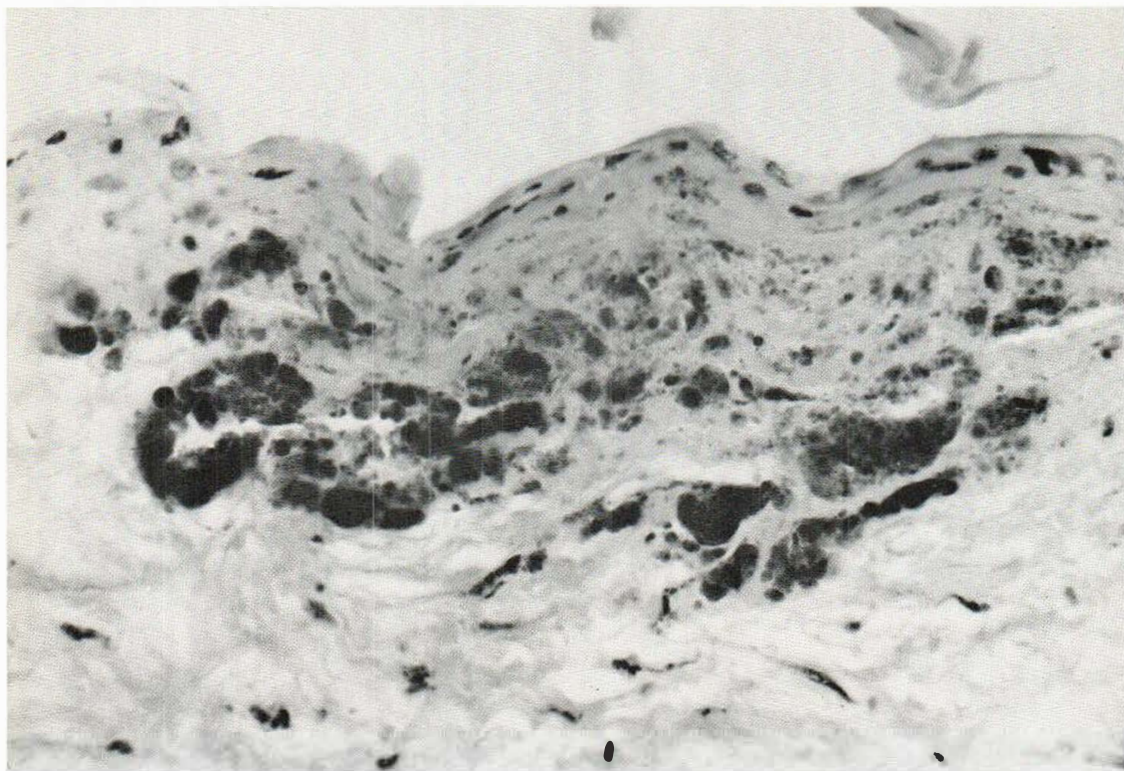


Fig. 3. Section of umbilicus. The surface epithelium is missing, but heavily pigmented nevus cell nests, pigment-laden macrophages, and free pigment are seen in the

superficial region of Wharton's jelly. Hematoxylin and eosin. Original magnification $\times 351\ 560$.

ment of cerebral melanoma or internal hydrocephalus?

The giant size of the nevus depends on its location. If it covers a good part of the face, hand or scalp it is called giant but not so if it is palm size on the buttocks or back. Nevertheless melanoma can occur in any of these lesions (6).

At the University of Illinois (4), 56 patients have been studied for over 25 years. In 31 patients, there were large nevi involving the trunk and limbs while in 25 the lesions involved the major portion of the face or hand. Six of these patients (over 10%) developed melanoma and 4 died from metastases. A possible clue to brain involvement may be an abnormal increase in the pigment of the retina and optic nerve (3). Cerebrospinal fluid examination has been of little help although nevus cells or melanoma cells could be expected occasionally to be found in the cellular sediment (6).

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W. B. Reed, M.D.
1013 West Olive Avenue
Burbank, Calif. 91506
USA