Eruptive neurofibromas in pregnancy

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Key words: axillary freckling; café au lait; eruptive; neurofibroma; neurofibromatosis type 1; nodules; papules; pregnancy.

INTRODUCTION

Neurofibromatosis type 1 (NF1) is one of the most common autosomal dominant genetic disorders, affecting approximately 1 in 3000 live births.[1] Although numerous studies suggest an increased incidence of pregnancy complications in patients with NF1,[2] relatively fewer reports describe the effect of pregnancy on cutaneous manifestations of NF1.[3] Here we report on a patient who had multiple neurofibromas beginning in the third month of her first pregnancy leading to a diagnosis of NF1.

Abbreviation used:

NF1: Neurofibromatosis type 1

CASE REPORT

A 36-year-old gravida 1, para 0 woman at 28 weeks' gestation was referred to the dermatology clinic by her obstetrician for evaluation of dozens of new papules and nodules, which had progressively increased in size and number since she first noticed them in the first trimester of her pregnancy. The patient denied any other complications during her pregnancy and had regular follow-up with her obstetrician throughout her pregnancy. The patient denied constitutional symptoms, and review of systems was only notable for pruritus of some of the nodules. All results of laboratory tests done during her pregnancy were within normal limits. The patient denied a family history of NF1, and social history was unremarkable. On physical examination, the patient had numerous 3- to 10-mm dark brown hyperpigmented papules and soft nodules located primarily on the back, chest, abdomen, and arms, which were clinically consistent with neurofibromas (Fig 1). She also had numerous 1- to 2-mm hyperpigmented freckles on the trunk, face, and axillae (Fig 2) that she stated were present since childhood, and more than 6 café-au-lait macules larger than 1.5 cm on the trunk. In addition, she was found to have a dark brown hyperpigmented plaque on her right thigh that was clinically consistent with a plexiform neurofibroma (Fig 3). The patient also had mild scoliosis. The diagnosis of NF1 was made based on the major criteria of axillary freckling, café-au-lait macules, and neurofibromas.[4] She was referred for genetic counseling.

DISCUSSION

Several studies have found that in approximately 50% of female NF1 patients, pregnancy leads to growth in size and number of baseline neurofibromas, but eruptive neurofibromas as the first presenting sign of neurofibromatosis in pregnancy is less common (3.1% of NF1 patients).[3] It is unclear why pregnancy often predisposes to increased growth of neurofibromas. In vitro studies suggest that growth of neurofibromas may be mediated by estrogen, progesterone, and androgens as well as epidermal growth factor, fibroblast growth factor, and transforming growth factor alfa.[5,6] Therefore, it is postulated that the physiologic increase in estrogen and progesterone during pregnancy may explain the increased growth of neurofibromas during this period.[5] Approximately 22% of patients who experienced proliferation of neurofibromas during pregnancy had partial regression of neurofibromas postpartum,[3] although there are no reported cases of complete resolution. Findings from prior cohort studies suggest an increased risk of pregnancy complications in NF1 patients, including preeclampsia, preterm labor, intrauterine growth restriction, hypertension, oligohydramnios, spontaneous

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Funding sources: None.
Conflicts of interest: None declared.
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JAAD Case Reports 2015;1:23-4.
2352-5126

http://dx.doi.org/10.1016/j.jdcr.2014.10.006

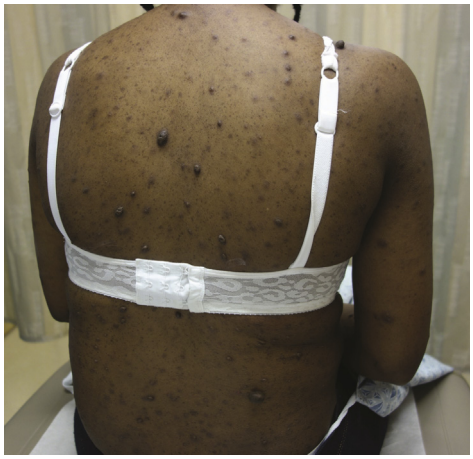

Fig 1. Neurofibromas.

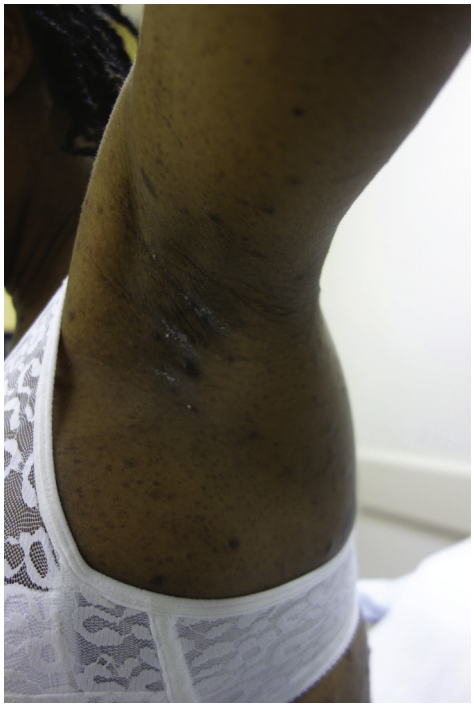

Fig 2. Axillary freckling.

abortion, stillbirth, and cesarean section, but more recent studies have not found the above associations.[3]

Although our patient has not yet experienced any pregnancy-related complications, it is important to remain vigilant throughout her pregnancy and to provide careful follow-up for her child. Even before the development of neurofibromas, the patient manifested diagnostic findings of NF1 (axillary freckling and >6 café-au-lait spots). Had her diagnosis of this autosomal dominant disease preceded her pregnancy, genetic counseling might have been more timely.

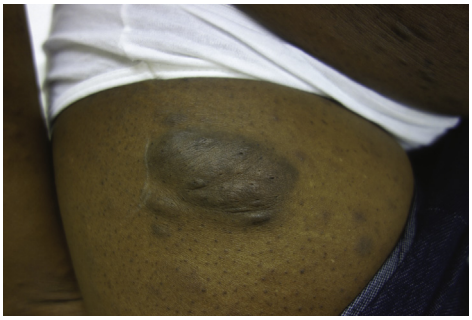

Fig 3. Plexiform neurofibroma.

Our case adds to the literature on eruptive neurofibromas in pregnancy and emphasizes the desirability of early diagnosis for NF1. With early diagnosis, appropriate prenatal counseling can be performed and prompt surveillance for ocular involvement, vasculopathy, skeletal abnormalities, malignancies, and learning disabilities can lend to early treatment of these potential complications. It is unclear whether there is increased risk of pregnancy complications in patients with NF1. Nonetheless, a high clinical index of suspicion is warranted to monitor for signs of complications during pregnancy.

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