Case Report

Mongolian spot with involvement of the frontal area

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Abstract

Mongolian spots are congenital hyperpigmented macules of varying size and shape and are usually grayish in color. They occur commonly in the sacrococcygeal area, followed by the gluteal and lumbar areas. We report a Chinese infant with a Mongolian spot in the frontal area; the occurrence of a Mongolian spot in this location is considered exceptional. Awareness of such an occurrence is important, and hence that a false accusation of child abuse is not made.

Key words: *Chinese, Frontal area, Mongolian spot*

Mongolian spots are congenital hyperpigmented macules of varying size and shape and are usually grayish in color [1]. Mongolian spots are rare in Caucasians but are very common in children of Asian and African descent [2]. Mongolian spots occur commonly in the sacrococcygeal area, followed by the gluteal and lumbar areas [2]. These lesions are less common on the back and occur even less frequently on the abdomen, thorax, and limbs [2]. Very rarely, these lesions may be found on the scalp, temporal area and mandibular area [3-5]. We report a Chinese infant with a Mongolian spot in the frontal area; the occurrence of which in this location is considered exceptional.

CASE REPORT

A Chinese infant boy was born to a gravida 3, para 2, 30-year-old mother at 37 week's gestation, following an uncomplicated pregnancy, normal vaginal delivery. Neither parent had a history of alcohol or drug ingestion. There was no history of consanguinity. The Apgar scores were 7 at 1 min and 9 at 5 min. The birth weight was 2.6 kg and length 49 cm. At birth, he was noted to have grayish lesions on the face, lower back, and buttocks. His 4-year-old brother and 2-year-old sister had Mongolian spots confined to the sacrococcygeal area and lumbar area. The infant was breastfed, and the neonatal course was uneventful.

At 6 weeks' examination, his weight was 3.5 kg and the length 50.5 cm. The infant looked well. He had extensive Mongolian spots in the sacrococcygeal area, lumbar area, and gluteal area and a Mongolian spot measuring 1 cm × 2 cm in the left frontal area (Fig. 1). The Mongolian spots were grayish and the color homogeneous. The rest of the physical examination was unremarkable.

Figure 1: Mongolian spot in the left frontal area

DISCUSSION

During fetal development, dermal melanocytes migrate from the neural crest to the dermoepidermal junction [1]. Dermal melanocytes are present in the dermis of embryos beginning in the 10th week of gestation; these migrate to the epidermis between the 11th and 14th week and gradually disappear from the dermis after the 20th week [1]. Mongolian spots are thought to result from a failure of migration of dermal melanocytes to the epidermis [6,7]. Histologically, the lesions are characterized by spindle-shaped melanocytes in the lower layers of the dermis. The presence of deep melanocytes gives off a gray and/or

blue color (Tyndall effect). The disappearance of Mongolian spots at a later age is caused by the subsequent migration of these dermal melanocytes to the epidermis or their removal by macrophages [6,7].

Mongolian spots are rare in Caucasians but are very common in children of Asian and African descent [2]. The spots are observed in almost all newborn Chinese, Japanese, and Mongols [2]. Both sexes are affected, with a slight male predominance [1,2]. Mongolian spots occur commonly in the sacrococcygeal area, followed by the gluteal and lumbar areas [2]. These lesions are less common on the back and occur even less frequently on the abdomen, thorax, limbs, and shoulders [2,6]. Leung examined 92 Chinese Canadian newborn infants and 1633 Chinese Canadian children for the presence of Mongolian spots [2]. At birth, Mongolian spots were present in all newborns. Mongolian spots were found in the sacrococcygeal area, lumbar area, buttock, back, thorax and abdomen, leg, arm, and shoulder in 98.9%, 52.2%, 71.1%, 14.1%, 4.3%, 6.5%, 3.3%, and 3.3% of newborn infants, respectively. These numbers fell to 10.2%, 3.4%, 4.2%, 1.7%, 0%, 0.8%, 0%, and 0%, respectively, at 6-7 years of age. No Mongolian spots were found on the face, neck, perianal area, palms, and soles.

Lau and Ching examined 1676 Chinese boys and 1554 Chinese girls from 1 week to 12 years of age in an out-patient clinic in Hong Kong [8]. Mongolian spots were found in 792 boys and 720 girls. These spots were detected in the sacrococcygeal area in 762 (96.2%) of the boys and 681 (94.6%) of the girls, the lumbar area in 394 (49.7%) of the boys and 423 (58.8%) of the girls, and the back and chest in 125 (15.8%) of the boys and 156 (12.7%) of the girls. There was no mention of Mongolian spots in the head area. Tsai and Tsai examined 3345 Chinese infants under 48 h of age and found Mongolian spots in 86.3% of them [9]. Lesions were localized to the sacrogluteal area, lumbar area, and flank area in 92.3%, 8.6%, and 6.2% of infants, respectively. Involvement of the shoulders and limbs were less common. These authors did not find Mongolian spots in the head area.

Reza et al. examined 2305 newborns at the Shariati Hospital, Tehran and found that Mongolian spots were present in 262 (11.4%) neonates [10]. The lesions were most commonly found in the sacral area (85.1%), gluteal area (39.7%), and back and lumbar area (3.8%). The same authors examined 1706 newborns at the Lolagar Hospital, also in Tehran, and found that Mongolian spots were present in 637 (37.3%) neonates [10]. The lesions were most commonly found in the sacral area (80.8%), gluteal area (36.9%) and back and lumbar area (14.1%). No Mongolian spots were found in the head area in the studies conducted at the two hospitals. Recently, Gupta and Thappa examined 2313 babies born at the Jawaharial Institute of Postgraduate Medical Education and Research, Puducherry, India and 1524 (65.9%) had Mongolian spots [11]. The most common site was the sacral area (n = 1203) and the most common extrasacral site was the lower extremity (n = 156). No Mongolian spots were detected in the head area.

The occurrence of Mongolian spots on the frontal area, temporal area, mandibular area, scalp, and shoulders is considered exceptional [3-6]. The reason why these areas are spared is not known. Mongolian spots usually fade during the first few years of life and are rare in children older than 10 years [2]. Leung et al. reported four Chinese adults with persistent Mongolian spots [6]. Two patients had the spots on their arms while the other two patients had the spots on their shoulders. It is conceivable that aberrant Mongolian spots tend to persist longer than Mongolian spots occurring in the typical sites. The long-term follow-up of patients with aberrant Mongolian spots such as this case is necessary to determine the natural history of these aberrant spots.

Mongolian spots may be of medicolegal significance as they can be confused with inflicted bruises. Smialek reported several infants with Mongolian spots whose sudden deaths were erroneously diagnosed as child abuse secondary to trauma to the lower back area [12]. Dungy reported two children with Mongolian spots, who were mistaken by day care center staff to be victims of child abuse [13]. Child protection services were notified, and custody proceedings were instituted in both cases. By the time the correct diagnosis was made, the impact of the inappropriate referral could not be erased. Misdiagnosis is particularly likely to occur if the child is comatose and the Mongolian spot is found in an unusual site such as the forehead or scalp or takes on an unusual shape or appearance (e.g. superimposed Mongolian spots) [3,4,7]. As such, it is a wise precaution to document the presence of Mongolian spots, especially if they are extensive, occur in an unusual site as is illustrated in the present case, or have an unusual shape or appearance.

CONCLUSION

The present case shows that a Mongolian spot can occur in the frontal area. Awareness of such an occurrence is important, so that a false accusation of child abuse is not made.

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