Recebido em 15/12/2009
Aprovado em 03/03/2010

Hemangiomas em recém-nascidos - Estudo Epidemiológico

Hemangiomas in newborns: an epidemiological study

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ABSTRACT

Objective: To identify the prevalence of hemangiomas in children born at Amaury de Medeiros Integrated Health Center between 1998 and 2008 and evaluate the characteristics of the children with this malformation. Study design: The identification of hemangiomas by examining the record cards of the newly-born at the maternity hospital, noting the location of the lesion(s), child's gender and weight, prematurity, Apgar score and any additional malformations. Results: 68 children with hemangioma were identified, of whom 38 were girls. Regarding weight at birth, 58 of the newborns displayed adequate weight, 08 low weight, 1 very low weight and 1 extremely low weight. Two babies were born pre-term and sixty-six were born at term. The mean Apgar score was 8 with 62/91.2% of the babies presenting a normal Apgar score, 5/7.3% slight asphyxia and 1/1.5% moderate asphyxia. As to location, 61/89.7% presented hemangioma in the head and neck region and 6/8.8% in other parts of the body. The location was not recorded for 1 child. Conclusions: Female babies were the most affected. Children who develop this malformation may have been born at term with a normal Apgar score and adequate weight. Most of the newborns showed isolated lesions on the head and neck. Complementary examinations should be requested as soon as a hemangioma is identified, since cell proliferation may affect the newborn's deep organs.

Keywords: Hemangioma, Hemangiomatosis, Sturge-Weber Syndrome, Vascular Malformation.

RESUMO

Objetivo: Identificar a prevalência de hemangiomas em crianças nascidas no Centro Integrado de Saúde Amaury de Medeiros entre os anos de 1998 e 2008, bem como observar as características das crianças que apresentam essa malformação. Desenho do Estudo: Identificar hemangiomas através da análise dos prontuários de recém-nascidos da maternidade, bem como sua localização, gênero da criança, peso ao nascimento, APGAR e outras malformações associadas. Resultados: 68 recém-nascidos foram identificados; 38 meninas. Considerando o peso ao nascimento, 58 crianças apresentaram peso adequado, 08 crianças baixo peso, 01 peso muito baixo e 01 peso extremamente baixo. Sessenta e seis bebês nasceram a termo, frente a dois que nasceram prematuros. O escore médio do APGAR foi de 8 com 62/91.2% dos bebês exibindo APGAR normal, 05/7.3% exibindo asfixia leve, 01/1.5% asfixia moderada. Nenhuma criança exibiu asfixia grave. Em relação à localização, 61/89.7% dos recém-nascidos apresentavam hemangiomas na região de cabeça e pescoço, 06/8.8% exibiram hemangiomas em outras partes do corpo. Em 01 recém-nascido a localização do hemangioma não foi registrada. Conclusões: O gênero feminino mostrou-se mais afetado por hemangiomas. Crianças que desenvolvem essa malformação podem nascer a termo, exibindo APGAR normal e com peso adequado. A maioria dos recém-nascidos apresentou lesões isoladas e em região de cabeça e pescoço. Exames complementares devem ser solicitados no momento em que forem identificados hemangiomas visíveis para se detectar possíveis lesões de acometimento em órgãos internos.

Palavras-chave: Hemangioma, Hemangiomatose, Síndrome de Sturge-Weber, Malformações Vasculares.

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INTRODUCTION

Hemangiomas are the most common nonmalignant vascular tumors of infants, characterized by rapid endothelial cell proliferation and hypercellularity[1,2]. This condition may appear at birth and show rapid growth during the first infancy[3,4,5]. Some authors say the causes of the condition are unknown[6,7]; others report that 10% of cases has to do with family history[8,9].

Actually, hemangiomas are classified as cutaneous (surface) or subcutaneous (deep) lesions. Hemangiomas may be present anywhere in the body and may not be visible at birth because of their small size or deep location. Some authors observe newborns usually present with isolated hemangiomas[10]. However, this condition can be considered a syndrome if the child shows others signs at birth[11,12].

More than half of hemangiomas occur on the head and neck area and they range from a few millimeters to several centimeters in diameter[3]. In the oral cavity they appear more frequently on the gum, tongue and lips[13]. Epidemiological studies show that hemangiomas are more common in females than in males[2,10]. Likewise, their incidence is higher in low- birth- weight premature infants[14,15].

The objective of this paper was to write a profile of children born with hemangiomas at Amaury de Medeiros Integrate Health Center (CISAM - Pernambuco, Brazil) between 1998 and 2008, analyze the prevalence of the condition and the following variables: gender, weight, prematurely, apgar score, location in the body and other malformations presence.

METHODS

Was realized descriptive analysis about gender, weight, prematurely, apgar score, hemangioma anatomic location and the presence of additional malformations obtained in medical records of newborns at CISAM, School Maternity Amaury de Medeiros Integrate Health Center, Brazil Northeast, between 1998 and 2008.

RESULTS

Out of 21.466 medical records examined, 68 were of children who showed a visible hemangioma in some location in the body, an incidence of 3.17 to 1.000 births. Thirty-eight (55.8%) of these newborns were female babies and 30 (44.2%), male babies. Weight analyses showed that 58 (85.2%) newborns displayed adequate weight, 08 (11.8%) showed low weight, 01 (1.5%) very low weight, 01 (1.5%) extremely low weight, and none showed overweight. Two (03%) of the children were born pre-term and sixty-six (97%) to term; none was post-term. The mean of the apgar score was 8. Sixty-two (91.2%) of the newborns presented normal apgar score at the first and fifth minutes after birth, 05 (7.3%) showed slight asphyxia, 01 (1.5%) moderate asphyxia and none serious asphyxia. Concerning location, 61 (89.7%) newborns presented hemangioma on the head and neck area; and six (8.8%) on other parts of the body. Location was not recorded for 01 (1.5%) child. Other malformations were identified in 15 (22%) of the newborns; none of the children was considered syndromic.

DISCUSSION

Results showed hemangiomas affected females most with ratio 1.2:[12,3,15,16,17,18,19]. These studies suggest female gender is more affected because of the hormonal factor. On the other hand, studies pointed that the condition has a slight female predilection[20,21]. Others showed hemangiomas displayed no clear predilection for gender[10].

In our sample, 68 (92.6%) of all hemangiomas occurred in the cervicofacial region[3,22,23,24] (Table 1). The locations most usually affected in this region in order of frequency are the nape of the neck, eyelid, glabellar region, and less commonly, the upper lip[10]. In our sample, in disagreement with this found .The eyelid was the most affected site 27 (39.7%). The involvements of the remaining sites, however, were in agreement with these authors: nape of the neck, 10 (14.7%); glabellar region, 07 (10.2%); and upper lip, 01 (1.4%). Twenty-three (33.8%) of the hemangiomas were recorded on locations other than the cervicofacial region: the face (13 - 19%), nose (05 - 7.3%), tongue (01 - 1.4%), lower lip (01 - 1.4%). Lips were the most often involved site, followed by the gingiva and tongue while the nose was never involved[17]. On the contrary, in our sample, the

 ISSN 1679-5458 (versão impressa) ISSN 1808-5210 (versão online)

nose was more affected than the tongue and lips.

Capillary hemangiomas are more common in male patients with a ratio of 1.2:1[10]. In the sample studied, only 03 female patients exhibited capillary hemangiomas with a sex ratio of 2:1. Authors also found that hemangiomas were more prevalent in trunk and extremities, followed by the head and neck[10,17], whereas in this study, most cases involved the cervicofacial region except for 05 (7.3%) of them. In addition, in this study, there were cases of hemangiomas affecting more than one site and in one medical record; the location of the hemangioma was not mentioned.

Studies suggest that cutaneous hemangiomas on the nose, lip and parotid area, are slow to involute and just as likely to resolve as deep lesions[3,23]. Some of the children with cutaneous hemangiomas were born at term and had a normal apgar score .The apgar score is the measurement of a baby's physical condition and mental alertness evaluated at one and five minutes after birth. In our sample 62 (91.2%) children exhibited normal apgar score, mean score being 8. Sixty-six (97%) of the children were born to term, 02 (3%) were born pre-term and none was born post-term.

A great number of the newborns (65 out of 68 - 95.5%) were born to term and with adequate weight at birth in disagreement some authors[2,14,15,19]. They show in your studies hemangiomas in low- weight premature babies (less than 1.500 grams). Nevertheless there are authors that showed babies presented adequate weight at birth[18,27]. Only 02 (3%) of them weighted less than 1.500 grams[10,26,28].

The presence of multiple hemangiomas on the face of a newborn may be a sign of Sturge-Weber Syndrome, an uncommon disorder. These lesions are called port-wine nevus, usually affecting upper face ipsilateral to the angiomatosis. Other malformations may also be present such as leptomeningeal angiomatosis, seizures, glaucoma, mental retardations, when cutaneous malformation is unilateral or bilateral, including ophthalmic division of the trigeminal nerve[7]. In this study, out of a total of 68 cases of hemangiomas, 52 (76,4%) involved the face and none showed the characteristic signs of Sturge-Weber Syndrome. This data may be masked because our sample consisted of only 21.466 medical records and this syndrome is a rare disorder that occurs with a frequency of approximately 1 per 50.000 births[11].

PHACE syndrome is another uncommon disorder that presents the acronym coined for this neurocutaneous syndrome which encompasses: Posterior fossa malformations of the brain, facial Hemangiomas, Arterial anomalies, Cardial anomalies and coarctation of aorta and Eye abnormalities[4]. Another disorder that includes the hemangioma as a residual tumor that persists in some cases is the Kasabach - Merritt Phenomenon. This is characterized by several thrombocytopenia, hypofibrinogenemia and microangiopathie hemolytic anemia[15].

However, it is important to observe that most children who present with cutaneous vascular malformation do not have Sturge-Weber Syndrome, PHACE or Kasabach - Merritt Phenomenon[5,12,29]; the majority of patients present with a single, solitary, and well-circumscribed lesion[3,10,15]. Such was the case in 41 (60%) out of the 68 medical records checked in the present study.

Approximately 20% of the patients could present with more that one hemangioma[3]. Twenty-two out of 68 (32%) medical records examined confirmed this observation. There is a considerable controversy in determining how infants with multiples cutaneous hemangiomas should be evaluated so that the possibility of significant subcutaneous hemangiomas - deep lesions- could be detected[3,10,12]. Besides physical examination, some complementary exams such as ultrasound or magnetic resonances should be required in order to identify these lesions because the cell proliferations can affect the newborn body systems. In this research, no requirements of complementary exams in children with hemangiomas were found.

In Conclusions it was found that female babies were more susceptible to presenting with hemangiomas and that children who develop this nonmalignant tumor may have been born to term, with a normal apgar score, and adequate weight. A great number of newborns showed isolated lesions on the head and neck region without, however, other malformations suggestive of syndromes.

ISSN 1679-5458 (versão impressa) ISSN 1808-5210 (versão online) Rev. Cir. Traumatol. Buco-Maxilo-Fac., Camaragibe v.10, n.3, p.91-96, jul./set. 2010

Epidemiological data on hemangiomas is still very controversial, which suggests the need of further studies on the subject.

ACKNOWLEDGEMENTS:

This investigation was supported by FACEPE/FDPE-UPE. Many thanks to Mrs. Rejane Aquino de Lucena for the permission to use the Amaury de Medeiros Integrate Health Center archives.

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 ISSN 1679-5458 (versão impressa) ISSN 1808-5210 (versão online)

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ISSN 1679-5458 (versão impressa) ISSN 1808-5210 (versão online) Rev. Cir. Traumatol. Buco-Maxilo-Fac., Camaragibe v.10, n.3, p.91-96, jul./set. 2010