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孕期营养与早发型子痫前期的关系*

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摘要 目的:探讨早发型子痫前期与孕期营养的关系,为早发型子痫前期的预防提供参考依据。**方法:**选择 2011 年 10 月~2013 年 10 月我院收治的早发型子痫前期患者(发病孕周 <34 周)60 例为 A 组,晚发型子痫前期患者(发病孕周 ≥ 34 周)58 例为 B 组,以及同时期门诊产检孕周 <34 周的正常孕妇 40 例为 C 组,产检孕周 ≥ 34 周的正常孕妇 40 例为 D 组,检测和比较各组孕妇的血清总蛋白、血红蛋白含量、血细胞压积水平。**结果:**A 组血清总蛋白、血红蛋白含量、血细胞压积均显著低于 B 和 C 组,差异均有统计学意义($P < 0.05$);而 C 组血清总蛋白、血红蛋白含量、血细胞压积与 D 组比较无明显统计学差异($P > 0.05$)。**结论:**早发型子痫前期的发生可能与孕期低蛋白血症、贫血相关,加强孕妇孕期的营养可能有助于预防早发型子痫前期的发生。

关键词:早发型子痫前期;低蛋白血症;营养性贫血;孕期营养

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Analysis of the Relationship between Early-onset Preeclampsia and Nutrition during Pregnancy*

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ABSTRACT Objective: To study the relationship between early-onset preeclampsia and nutrition during pregnancy, and provide references for the prevention of early-onset preeclampsia. **Methods:** 60 cases of early-onset preeclampsia patients (gestational age < 34 weeks) who admitted in our hospital from October 2011 to October 2013 were selected as group A, 58 patients with late onset preeclampsia (gestational age ≥ 34 weeks) were selected as group B, 40 cases of normal pregnant women (gestational age < 34 weeks) admitted at the same time were selected as group C, 40 cases of normal pregnant women (gestational age ≥ 34 weeks) admitted at the same time were selected as group D. The total protein, hemoglobin and haematocrit levels in serum were detected and compared between different groups. **Results:** The total protein, hemoglobin and haematocrit levels in serum of group A were all significantly lower than those of group B and group C ($P < 0.05$), but no obvious difference was found in the index mentioned above between group C and group D ($P > 0.05$). **Conclusion:** Early-onset preeclampsia may be related to the hypoproteinemia, anemia during pregnancy. To improve the nutrition during pregnancy may contribute to prevent the occurrence of the early-onset preeclampsia.

Key words: Early-onset preeclampsia; Low protein; Anemia; Nutrition during pregnancy

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前言

子痫前期是严重威胁母婴健康的产科重症,是以血压升高、蛋白尿、其他脏器功能障碍为特征的一组疾病^[1]。早在 20 世纪 80 年代,美国学者就注意到发生在中期妊娠的子痫前期;到了 80 年代末期,早发型子痫前期引起了人们的关注;时至今日,子痫前期已成为国际妇产科的热点问题之一。有学者将发病于妊娠 34 周前的先兆子痫称为早发型子痫前期,在此后发病者称为晚发型子痫前期^[2]。文献报道,子痫前期发生的时间越早,并发症的发生率及严重程度也随之增加,胎婴儿的预后与发病孕周及孕龄有着重要的相关性^[3]。近年来,人们对早发型子痫前期的发病机理、临床特征、治疗等方面的研究颇多,但对其预防保健方面的研究较少。有研究表明,怀孕期间质量差的饮

食与先兆子痫、早产或者流产等有关^[4]。贫血是孕期诸多疾病的高危因素^[5]。本研究就我院 2011 年 10 月~2013 年 10 月收治的早发型子痫前期的病例进行回顾性的分析和总结,旨在探讨孕期营养与早发型子痫前期的相关性,以期及早预防保健提供参考依据。

1 资料与方法

1.1 一般资料

按照时间顺序选择 2011 年 10 月~2013 年 10 月我院收治的早发型子痫前期患者(发病孕周 < 34 周)60 例分为 A 组,其中初产妇 28 例,经产妇 32 例,双胞胎 5 例,三胎 1 例,胎死宫内 4 例;最小年龄 19 岁,最大年龄 43 岁,平均年龄(28.2 ± 1.9)岁;发病最小孕周 18+4 周,最大孕周 33+6 周,平均孕周(30 ±

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1.4) 周。晚发型子痫前期患者 (发病孕周 ≥ 34 周)58 例分为 B 组, 以及同时期门诊产检孕周 < 34 周的正常孕妇 40 例分为 C 组,产检孕周 ≥ 34 周的正常孕妇 40 例分为 D 组。子痫前期重度诊断按照《妇产科学》第 8 版中妊娠期高血压疾病分类之子痫前期重度的标准^[6]。

1.2 方法

各组孕妇均采集晨起空腹外周静脉血(早发型子痫前期和晚发型子痫前期患者均采集治疗前的外周静脉血), 送检验科检查肝功能观察血清总蛋白, 血常规观察血红蛋白、血细胞比容。

1.3 统计学分析

采用 SPSS14.8 统计软件包处理, 计量资料以($\bar{x} \pm s$)表示, 采用 t 检验, 以 $P < 0.05$ 为差异有统计学意义。

2 结果

2.1 早发型与晚发型子痫前期患者的血清总蛋白、血红蛋白、血细胞比容水平比较

早发型子痫前期患者组的血清总蛋白、血红蛋白、血细胞比容分别为 49.2 ± 4.1 g/L、 89 ± 8 g/L、 0.30 ± 0.02 g/L, 均显著低于晚发型子痫前期患者组, 分别为 52.3 ± 3.4 g/L、 91 ± 2 g/L、 0.33 ± 0.11 g/L, 差异均有统计学意义($P < 0.05$), 如表 1 所示。

表 1 早发型与晚发型子痫前期患者的血清总蛋白、血红蛋白、血细胞比容水平比较

Table 1 Comparison of the total protein, hemoglobin and haematocrit levels in serum between patients with early-onset of preeclampsia and late-onset of preeclampsia

Group	The number of cases	Total serum protein(g/L)	Hemoglobin(g/L)	Haematocrit (g/L)
A	60	49.2 ± 4.1	89 ± 8	0.30 ± 0.02
B	58	52.3 ± 3.4	91 ± 2	0.33 ± 0.11
T		2.626	3.174	2.871
P		0.005	0.001	0.0025

* 注: A、B 分别代表早发型子痫前期患者(发病孕周 < 34 周)、晚发型子痫前期患者(发病孕周 ≥ 34 周)。

Note: A, B represent early-onset preeclampsia patients(the incidence of gestational age < 34 weeks), late-onset preeclampsia patients(the onset of gestational age 34 weeks or more).

2.2 早发型子痫前期患者与同时期孕周 < 34 周正常孕妇的血清总蛋白、血红蛋白、血细胞比容水平比较

早发型子痫前期患者组的血清总蛋白、血红蛋白、血细胞比容分别为 49.2 ± 4.1 g/L、 89 ± 8 g/L、 0.30 ± 0.02 g/L, 均明显低

于同时期孕周 < 34 周的正常孕妇组, 分别为 60.7 ± 4.0 g/L、 106 ± 2 g/L、 0.35 ± 0.09 g/L, 差异均具有统计学意义($P < 0.05$), 如表 2 所示。

表 2 早发型子痫前期患者与同时期孕周 < 34 周正常孕妇的血清总蛋白、血红蛋白、血细胞比容水平比较

Table 2 Comparison of the total protein, hemoglobin and haematocrit levels in serum between early-onset preeclampsia patients and normal pregnant women with clinic prenatal gestational age < 34 weeks at the same time

Group	The number of cases	Total serum protein(g/L)	Hemoglobin(g/L)	Haematocrit (g/L)
A	60	49.2 ± 4.1	89 ± 8	0.30 ± 0.02
C	40	60.7 ± 4.0	106 ± 2	0.35 ± 0.09
T		1.97	3.402	2.38
P		0.027	0.0005	0.009

* 注: A、C 分别代表早发型子痫前期患者(发病孕周 < 34 周)、同时期门诊产检孕周 < 34 周的正常孕妇。

Note: A, C represent early-onset preeclampsia patients (the incidence of gestational age < 34 weeks), normal pregnant women whose clinic prenatal gestational age was < 34 weeks at the same time.

2.3 孕周 < 34 周与孕周 ≥ 34 周的正常孕妇的血清总蛋白、血红蛋白、血细胞比容水平比较

门诊产检孕周 < 34 周的正常孕妇组与同时期门诊产检孕周 > 34 周正常孕妇组的血清总蛋白、血红蛋白、血细胞比容水平比较均无统计学差异($P > 0.05$), 如表 3 所示。

3 讨论

子痫前期是严重威胁母婴健康的妊娠期并发症, 发病率为 3%^[7], 因其所致的孕产妇死亡约占妊娠相关死亡总数的 10%~16%^[8], 是关系着孕妇、胎儿以及新生儿的生命健康的重症。研究表明, 血管内皮细胞受损是子痫前期发病的组织病理基础^[9];

引发围产儿发病率及死亡率升高的病理生理机制主要是孕妇子宫螺旋小动脉供血不足, 胎盘着床浅, 导致胎盘血流量急剧降低, 胎儿供氧量不足^[10]。子痫前期的发病源于缺乏滋养层入侵, 螺旋动脉重建的失败, 导致胎盘灌注不足, 胎盘存在氧化应激^[11]。也有学者认为子痫前期是由于免疫调节功能异常最终导致炎症浸润^[12]。有重度子痫前期既往史者重度子痫前期的发生率高且程度更重, 胎儿发病率、死亡率及母体早产率均明显升高^[13]。也有研究表明子痫前期的发病与营养物质的摄入有关, 如维生素 D 缺乏增加了早发型子痫前期的风险^[14]。叶酸和维生素 B12 的摄入可能影响子痫前期的发病^[15]。摄入高能量、蔗糖和多不饱和脂肪酸与子痫前期的风险增加相关^[16]。

表3 孕周<34周与孕周≥34周的正常孕妇的血清总蛋白、血红蛋白、血细胞比容水平比较

Table 3 Comparison of the total protein, hemoglobin and haematocrit levels in serum between normal pregnant women with clinic prenatal gestational age < 34 weeks and ≥ 34 weeks

Group	The number of cases	Total serum protein(g/L)	Hemoglobin(g/L)	Haematocrit (g/L)
A	40	60.7± 4.0	106± 2	0.35± 0.09
C	40	59.1± 5.8	104± 7	0.34± 0.10
T		0.806	1.293	0.684
P		0.22	0.09	0.24

* 注: C、D 分别代表同时期门诊产检孕周 <34 周的正常孕妇、产检孕周 ≥ 34 周的正常孕妇。

Note: C, D represent the normal pregnant women whose clinic prenatal gestational age is < 34 weeks and ≥ 34 weeks at the same time .

血清总蛋白为血清中所含各种蛋白质的总称,具有维持血液正常胶体渗透压和 PH,运输多种代谢物,调节被运输物质的生理作用和解除其毒性、免疫作用,以及营养作用等多种功能,可反映人体蛋白含量,在一定程度上反映蛋白质的摄入量,在孕期尤其是子痫前期的患者血清总蛋白是降低的,除了血液稀释、蛋白的流失增加(如因蛋白尿流失),还与摄入不足有关。食物中蛋白含量的长期不足可导致血清总蛋白降低^[17]。血清总蛋白、血红蛋白、血细胞比容可以反映机体是否存在贫血及其营养状况。在妊娠期,由于胎儿生长发育的需要,大量胎盘激素的参与及体内发生的一系列的生理变化,孕妇对铁、蛋白质及多种元素的需求量增加。妊娠期低铁蛋白可造成缺铁性贫血,是孕妇最常见的营养缺乏性疾病^[18]。

本研究结果显示孕周<34周的早发型子痫前期孕妇的血清总蛋白、血红蛋白、血细胞比容显著低于晚发型子痫前期患者(发病孕周≥34周)、孕周<34周的正常孕妇以及孕周≥34周的正常孕妇,而孕周<34周的正常孕妇以及孕周≥34周的正常孕妇以上研究指标比较均无显著性差异,这就排除了孕周小、早产因素对以上研究指标的影响。有些孕周<34周的早发型子痫前期孕妇的病情相当严重,如重度贫血需输血,重度低蛋白血症出现全身水肿、胸水腹水、心衰、多脏器功能衰竭、死胎、子痫等严重并发症。早发型子痫前期的孕妇与同孕周正常孕妇以及晚发型子痫前期的孕妇相比,其血清总蛋白、血红蛋白、血细胞比容都是降低的,提示存在营养摄入不足的可能性,主要体现在蛋白质和铁质摄入不足,且各指标越低,发病越早,症状越重,并发症也越多且重,新生儿的低体重、各种并发症的发生率以及死亡率也升高。有研究提出成人疾病的胎儿起源学说,即儿童及成人的一些疾病与其母孕期营养有关^[19]。从对患者的调查问卷中可知,早发型子痫前期的孕妇中,相当一部分存在孕期肉、蛋、奶摄入量不足的情况。

综上所述,孕期营养缺乏可能与早发型子痫前期的发生有关,如果孕妇能注意孕期的营养均衡,尤其是蛋白质和铁的摄入可能有助于早发型子痫前期的预防、推迟其发生孕周和减轻症状。妇产科的医务人员有责任及义务做好孕期营养的宣教工作^[20],并争取在重度子痫前期的临床前阶段给予必要干预,以减缓病情发展。

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