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Mannose-binding lectin genotypes are associated with shorter gestational age An evolutionary advantage of low MBL production genotypes?

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Abstract

***Background**:* The complement factor mannose-binding lectin (MBL) is associated with adverse pregnancy outcome. MBL serum concentrations are increased from early pregnancy onwards and depend upon several gene polymorphisms. We investigated whether MBL polymorphisms are associated with term and preterm birth, since preterm birth is the leading cause of neonatal morbidity and mortality.

Methods: *MBL2* gene polymorphisms were determined in 157 nulliparous women. Considering MBL polymorphisms cases were categorized in groups of high (A), intermediate (B) and low (C) MBL production. Kaplan–Meier survival and multiple linear regression analysis were performed.

Results: Women with high MBL genotype group A had a shorter gestational age (274 days±S.D.21) than the women with the intermediate MBL genotype group B (283 days±S.D.12) and the low MBL genotype group C (284 days±S.D.9). This difference in mean gestational age is almost totally attributable to premature births in group A, since 12 of the 14 preterm births were from women with the high MBL genotype group A and only two from the intermediate MBL genotype group B.

***Conclusions**:* We found an association between the maternal high MBL genotype group A and premature birth, suggesting that during pregnancy MBL-associated inflammation caused by higher MBL activity may contribute to earlier delivery. Furthermore, this finding might explain why so many individuals are MBL deficient in the general population.

Keywords: Gestational age; Mannose-binding lectin; Polymorphisms; Preterm birth

甘露糖结合凝集素的基因型与较短的孕龄有关，是较低甘露糖结合凝集素基因型产物的进化优势？

摘要

背景：不利的妊娠结局和补体因子甘露糖结合凝集素（MBL）想关联。从妊娠早期起血清 MBL 的浓度就开始上升，起升高的幅度依赖 MBL 的几种基因多态性。因为早产与新生儿的病死率和死亡率很有关系，所以我们调查了 MBL 基因多态性与足月妊娠、早产的关系。

方法：检测了 157 个未有过生育的妇女的 MBL2 基因多态性。根据 MBL2 基因多态性的现象将 157 个妇女 MBL 基因产物分为高组（A）、中组（B），低组（C）三组。并对其进行了 Kaplan–Meier 生存曲线和多元线性回归分析。

结果：A 组(274 days±S.D.21)的妊娠时间比 B 组(283 days±S.D.12)和 C 组(284 days±S.D. 9)要短。因为 14 个早产的妇女有 12 个来源于 A 组，只有 2 个早产的妇女来自 B 组合 C 组，这就意味着大部分的早产都来自于 A 组。

结论：我们发现了母体最高 MBL 产物的 A 组和早产有联系，表明在妊娠期间由于高活性的 MBL 引起的炎症可能促进早产。此外，这个发现也能够解释为什么在一般人群中有如此多的 MBL 缺乏的个体。 陈强翻译