Felkért referátum

A felnőttkori betegségek praenatalis eredete

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Összefoglalás

Barker ismerte fel elsőként, hogy a kedvezőtlen méhen belüli környezet (elégtelen táplálás, krónikus hypoxia, stressz) és alacsony születési súly fontos kockázati tényező a felnőttkorban kialakuló metabolikus szindróma szempontjából. A környezeti hatások olyan adaptív reakciókat váltanak ki, melyek rövidtávon biztosítják a magzat túlélését, hosszú távon azonban olyan anyagcsere-, endokrin- és vascularis folyamatokat indítanak el, melyek felnőttkorban obesitashoz, 2-es típusú diabeteshez és cardiovascularis megbetegedések kialakulásához vezetnek. Később igazolták, hogy a méhen belüli sorvadás mellett veszélyeztetettek a valódi koraszülöttek és azok a csecsemők, akik az első életévet követően un „pótló" súlygyarapodást mutatnak. Az alacsony születési súly és a felnőttkori betegségek közötti kapcsolat számos vonatkozása tisztázott. Kimutatták epigenetikus tényezők, a renin-angiotensin rendszer, a sympathoadrenalis rendszer, a hypothalamus-hypophysis-mellékvese kéreg rendszer, a nephronok számának csökkenése, az inzulin rezisztencia, zsírszöveti hormonok és az endothel dysfunctio etiológiai szerepét. Az etiológiai tényezők és a pathomechanismus megismerése lehetőséget kínál arra is, hogy az intrauterin sorvadás és koraszülöttség megelőzésén túl célzott kezelési eljárásokat is bevezessünk.

Kulcsszavak: felnőttkori betegségek, metabolikus szindróma, intrauterin környezet

Praenatal origins of adult diseases

Summary

Barker was the first to put forward the hypothesis that the adverse intrauterine environment (insufficient nutrient supply, chronic hypoxia, stress) and the subsequent fetal malnutrition is an important risk factor for development of metabolic syndrome in later life. The fetus responds to the unfavourable environment with adaptive reactions which ensure survival in the short-run, but at the expenses of metabolic-, endocrine- and vascular processes leading to adult diseases such as obesity, diabetes type 2 and cardiovascular pathologies. Later on, it was established that in addition to fetal malnutrition newborns born preterm and those with rapid catch-un growth after the first year are also at risk of adult diseases. Several aspects of the fetal/perinatal origin of adult diseases are clearly defined. It has been documented that epigenetic modifications, the renin-angiotensin system, the sympathoadrenal system, the hypothalamo-pituitary-adrenocortical axis, the reduced nephron number, insulin resistance, adipocytes-derived hormones and endothelial dysfunction play major pathogenetic roles. Our better understanding of the association of low birth weight and adult diseases allows us to introduce more targeted therapeutic measures in addition to the general approaches to prevent fetal malnutrition and preterm birth.

Keywords: adult diseases, metabolic syndrome, intrauterine environment

***** Az Egészség-Akadémia programsorozat 2009. december 7-én elhangzott előadása

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