Letters to the Editor

Multiparity: A double-edged blessing of metabolic syndrome along with children

Sir,

Although the prevalence of metabolic syndrome (MS) is similar for males and females, higher morbidity among females from MS has been reported. Multiparity poses significant risk for development of MS and consequent cardiovascular disease (CVD). Nulliparous women have lower CVD prevalence compared with parous women (18.0% vs. 30.2%). Women with five or more births have high (2.27 times) CVD prevalence after adjustment for complications.[1]

Higher odds of pre-eclampsia exist with the presence of MS. For every one unit increase in metabolic score, there is 39% increased odds of pre-eclampsia [four times higher when highly sensitive C-Reactive Protein (hs-CRP) > 8].[2] In a study spanning 6331 women, the number of children borne in women with MS was significantly higher than in those without MS.[3] The rate of MS significantly rises with increasing numbers of children (13% with each additional child), demonstrating a dose–response relationship independent of prior obesity and pregnancy-related weight gain. Also, the later the age at first birth, the lesser is the risk of having MS.

The rate of MS is shown to decrease by 22% in women with a history of breastfeeding for >1 month. Increased lactation duration is associated with lower crude MS incidence rates from 0 to 1 month through >9 months with risk reductions stronger among gestational diabetes mellitus (GDM) group than among non-GDM group. Compared with nulliparous women, childbearing women who do not breastfeed have about a 50% increased risk of type 2 diabetes in later life.

Age-adjusted large waist circumference (also sagittal abdominal diameter) carries high risk for having MS, CVD and diabetes. In a cohort, the National Cholesterol Education Program (NCEP) definition identified MS in 39% of those with parity >6.[4] Grand multiparity (>6) has a threefold higher odds of type 2 diabetes compared with low parity women.

The increase in prevalence of MS phenotype (from 1988 to 2004) was 7.6% and female offsprings of diabetic mothers are more likely to possess the MS phenotype than those of non-diabetic mothers. Computed tomography (CT) and dual-energy X-ray absorptiometry show that visceral adipose tissue increases by 40% and 14% above initial levels for 1 birth and 0 birth groups, respectively (greater visceral fat relative to abdominal subcutaneous fat). Substantial increases in waist girth (central obesity) by about 2–3 cm per birth occur with more interim births, which is proportionately larger than the absolute weight gain associated with childbearing.

Significantly greater decrements are found in plasma high density lipoprotein (HDL) of 3–4 mg/dl in women after their first birth compared with nongravid women, independent of gains in body weight and waist girth measures. Parity directly correlates with adiposity, fasting glucose, 2-hour glucose, Framingham risk score, and carotid atherosclerosis in women. The prevalence of plaques/carotid intima–media thickness increases by 15% per child (similar in younger and older women) after adjustment for age, socioeconomic and lifestyle factors.[5]

The risk of MS in multiparity is well established, and adequate awareness, preventive strategies and management are the need of the hour.

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