Decaffeinated green coffee bean extract and the components of the metabolic syndrome

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Roshan et al. (1) conducted a randomised clinical trial to elucidate the effects of decaffeinated green coffee bean extract (GCE) on the components of the metabolic syndrome (MetS). Although not all the components of the MetS improved by the intervention, GCE administration had a preventive effect on the components of the MetS, including insulin resistance, in combination with reducing appetite level. I have two concerns about their study.

First, Sarriá et al. (2) conducted a cross-over, randomised, controlled study to evaluate the effects of green/roasted coffee blend (35:65) on the main components of the MetS in subjects with appropriate BMI. The authors concluded that regular consumption of the green/roasted coffee blend had a preventive effect for the MetS components, regardless of hypercholesterolaemia. Roshan et al. reported that waist circumference, weight, and BMI reduction was significant in the intervention group with GCE, and I suppose that obesity itself would be improved by the consumption of green/roasted coffee blend. On this point, Suliga et al. investigated the association between coffee consumption, MetS and its components with special reference to BMI (3), and lower coffee consumption was significantly associated with incident MetS in subjects with normal and increased BMI. Roshan et al. recognised that decaffeinated GCE had an effect of reducing appetite level, and improvement of obesity by the consumption of decaffeinated GCE would be reasonable.

Second, Micek et al. (4) assessed the relationship between tea and coffee consumption and the MetS by a cross-sectional study. Adjusted OR of moderate coffee drinkers for the MetS was 0·83 (95 % CI 0·72, 0·97). In contrast, adjusted OR of tea consumption for the MetS did not become significant. They speculated that the antioxidants would protect the MetS by coffee consumption. In addition, the lack of significant association between tea consumption and the MetS was speculated by the composition of polyphenols according to the types of tea. I think that their speculation is in concordance with biological findings of the recent reports by Bravo-Clemente et al. (5,6), and biological mechanism of decaffeinated GCE for preventing the MetS should be specified by further study.

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