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Polyphenol-rich food general and on pregnancy effects: a review.

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Abstract

This review aimed to investigate possible protective or deleterious effects of polyphenol-rich foods (PRF) on chronic diseases, e.g. cardiovascular, and in pregnant women, along with their antioxidant and anti-inflammatory action. A great variety of foods and beverages, such as herbal teas, grape and orange derivatives, dark chocolate, and many others contain high concentrations of flavonoids and are freely consumed by the general population. In humans, PRF consumption reduces lipid peroxidation, and several studies have shown a positive correlation between an increased consumption of PRF and a decrease in the incidence of cardiovascular disease. On the other hand, current studies have suggested that maternal ingestion of PRF, especially during the third trimester of pregnancy, could be associated to fetal ductal constriction (DC). Fetuses exposed to this type of diet show higher ductal velocities and lower pulsatility indexes, as well as larger right ventricles than those exposed to minimal amounts of these substances. The underlying mechanism involved in these conditions has not been entirely elucidated, but it seems to be a result of the antioxidant and anti-inflammatory effects of polyphenols by some pathway. Furthermore, taking into account the deleterious effect in late-pregnancy against the numerous positive effects associated to polyphenols, this dual behavior deserves attention particularly to control the dietary ingestion of PRF during gestation. In this line, same PRF, natural constituents of human diet, may represent risk to fetal in late pregnancy compared to the use of nonsteroidal anti-inflammatory drugs.

KEYWORDS: Polyphenols; fetal ductal constriction; heart; pregnant

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