



## Plastics, Bisphenols and Mitochondrial Dysfunction: A Clue for Understanding Pathogenesis of Several Chronic Diseases of Recent Times

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Incessant use of plastics continues to unleash its harmful effects despite the international community looking at restrictions and healthier alternatives, which do not seem to be helping the cause. Bisphenol, the ubiquitous chemical and its analogues present in various plastic commodities, is a well-known endocrine disruptor and toxic to the human system. Exposure to this harmful chemical over a continuous period has been significantly associated as a causing factor in several chronic disorders like cardiovascular disease, chronic renal disease, chronic respiratory disease, diabetes, obesity, birth/developmental defects, reproductive disorders and even cancer [1].

Despite the epigenetic, endocrine-disrupting signalling pathways being its mode of action, there is increasing evidence that mitochondrial dysfunction is one of the critical events following the bisphenol exposure [2]. Both catabolic and anabolic functions are impacted inside the mitochondria, which can cause disturbing oxidative homeostasis, thus increasing the cell's ageing process, leading to toxicity inside the cell and thus necrosis. It raises the question of whether the mitochondrial injury is a prerequisite for the occurrence and progression of the BPA mediated chronic disorders or not? We believe that time is ripe to search for this question as the prevention of mitochondrial dysfunction may be a new therapeutic avenue to prevent multiple disorders.

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### Bibliography

1. Rezg R., et al. "Bisphenol A and human chronic diseases: Current evidences, possible mechanisms, and future perspectives". *Environmental International*. 64 (2014): 83-90.
2. Goyal S., et al. "Bisphenol A inhibits mitochondrial biogenesis via impairment of GFER mediated mitochondrial protein import in the rat brain hippocampus". *Neurotoxicology*. 85 (2021): 18-32.

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