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Natural History of Isoprostanes as Biomarkers of Oxidative Stress

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A large body of evidences implies that the measurement of isoprostanes is reliable biomarkers of oxidative stress. Isoprostanes are families of PGF-like compounds derived by non-enzymatic oxidation of fatty acids with two double-bonds or more. Of these, PGF₂-like compounds specifically derived from arachidonic acid have received the most attention because of their availability at major research laboratories with long lasting interest in prostaglandin metabolism in the United States. Recent advancement in the analytical field has led to discovery of an array of other PGF-like compounds derived from linoleic acid, linolenic acid, eicosapentaenoic acid and docosahexaenoic acid. The aim of this presentation is to shed a light on the natural history of PGF-like compounds since their discovery by Nugteren in 1975, discuss recent achievement and address new directions in the filed.