The Concentration of Platinum Group Elements (PGE) and Heavy Metals in Soils and Suspended Particulate Matter in Ambient Air of Patuncheru, Medak District, Hyderabad - Implications for the Health of the Residence

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During the past decade traffic related emission of Pt, Rh and Pd has strongly increased resulting in growing concentrations in specific environmental areas.Due to this extensive use, PGEs cause their anthropogenic emission and spread through the food chain polluting the biosphere.It has generally been assumed that the health risks associated with environmental exposure to PGE is minimal. More recent studies on PGE toxicity, environmental bioavalaialbility and concentrations in bio- logically relevant media indicate however that environmental exposure to these metals may indeed pose a health risk, especially at a chronic, subclinical level. Several studies have reported enhanced PGE levels in human body fluids and tissues exposed to occupational environment. PGEs have also been associated with asthma, nausea, increased hair loss, spontaneous abortion, dermatitis and other serious health problems in humans [1].

The present study is aimed to determine the PGE levels in the highly polluted area, Patancheru situated in the Medak district of Hyderabad which has already reported for high arsenic pollution [2] and called locally as 'Hell on Earth'. This paper reports the data pertaining to the bioavailable PGE contents of all the environmental samples and epidemiological samples in the selected study sites. The study is aimed to generate preliminary information on mobility of PGEs from the soil to cell.

Keywords: PGE, epidemiological, soil-cell, pathway

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