

## **Elevated strontium concentration in the blood of automobile workers in Kolkata**

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### **ABSTRACT**

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**Introduction:** Though the trace element strontium's (Sr) exact role in health remains unknown, at certain levels, it is toxic and, given the body's low threshold for Sr, has been cited to cause nervous disorders. At different stages of the life cycle, organisms vary in their ability to discriminate Sr and calcium, which can cause age-related differences in gastrointestinal absorption. Though data regarding the effects of such absorption remain limited, it can reportedly impact health, the immune system, and chromosomal aberration.

**Purpose:** To investigate and correlate levels of Sr concentration and any health problems at certain levels among automobile workers.

**Materials and methods:** The blood of 41 automobile

workers and 26 healthy controls of the Kolkata region was collected and whole blood Sr concentration estimated by the energy dispersive X-ray fluorescence (EDXRF) technique.

**Results:** Automobile workers showed significantly ( $p < 0.001$ ) higher blood SR levels than controls from the same area, despite similar dietary habits and drinking-water quality.

**Conclusions:** Automobile workers are exposed to different pollutants that can harm their health, and a trace element imbalance of Sr and its elevated concentrations in the blood may cause different health complications.

**Key words:** Strontium; garage workers; blood; Energy Dispersive X-ray Fluorescence Technique.

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