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Title: The effect of dental amalgam restoration on blood, feces and urine mercury level

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Abstract: Purpose: The purpose of this paper is reviews the increase of mercury level in body and the effect of this mercury on patients health.

Introduction:
Dental amalgam is an unstable mixture of 50% liquid mercury with other toxic metals including copper, silver and tin. Since mercury is a gas at room temperature it vaporizes continuously from the amalgam mixture resulting in high levels of mercury in the oral air. Since amalgam is also a mixture of metals in an electrolyte (saliva) this results in galvanic currents that pump mercury and other toxic metals into the gums and oral mucosa, from which it is carried throughout the body by the blood. The average level of mercury in blood is 8 µg/L in patients without amalgam restoration. The toxic level for mercury in blood of patients with amalgam fillings is 15 µg/L. The average level of mercury in feces (dry weight) of patients with amalgam fillings is 26 mg/kg and in patients without amalgam fillings is 2 mg/kg. The average level of mercury in urine of patients without amalgam restorations is 5-6 µg Hg/g of creatinine and in urine of patients with amalgam fillings is 30 µg Hg/g of creatinine. This mercury is released from dental amalgam during its insertion into the tooth, removal of amalgam fillings, the functional life of the restorations, amalgam undergoing finishing and polishing operations.

Conclusion: This mercury produce toxic reactions in some patients. And it Can interfere with certain medical conditions may increase the severity of them.

mercury, amalgam restoration, mercury toxicity

Presentation: Poster