

Adverse Health Effects of Palladium

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Metal cations in dental alloys such as mercury and palladium are continuously released and accumulate in the kidneys, liver, thyroid, brain, CNS, etc.(1,15). Mercury and palladium have high levels of galvanic current densities when near other metals, with the current densities of Pd alloys approx. 10 times higher than for high noble alloys(16). This causes extensive migration of mercury and palladium to saliva, tooth roots, jaw, gums, and other parts of the body(15,16).
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Like mercury, palladium is cytotoxic and kills or damages cells (12,13,14). Palladium also causes considerable damage and degradation of DNA and exacerbates hydroxyl radical damage (13,14). Palladium also damages cell mitochondria and inhibits enzyme activity and function (9,10,11).
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Palladium also causes significant numbers of allergic reactions as well as contact dermatitis, stomatitis, lichenoid reactions, and periodontal gum disease(4,5,6,7,8).
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Because of its toxicity and high mobility, many cases of palladium poisoning have resulted and palladium in dental alloys has been banned in Switzerland. Likewise the German Health Ministry has been warning dentists since 1993 not to use palladium-copper alloys.

The warning against using palladium alloys came as a result of poisonings and lab tests in Germany that showed the following toxic effects of palladium:

- Obstruction of important enzyme systems like creatin-kinase, aldolase, alkaline phosphatase, carbon-anhydrase, trypsin, chymotrypsin, cellulase;
- Disturbance of collagen synthesis like bone and cartilage;
- Obstruction of thymidine in the DNA;
- Accumulation in body organs;
- Allergic reaction- esp. for people with nickel allergy.

Based on German studies and cases, early symptoms of palladium toxicity include:

increased salivation; pain in teeth and jaw; burning tongue; cold

feeling in mouth; metal taste, peeling of mucous membrane around teeth; fungus like coating in throat and sore throat; painful, swollen lymph nodes in the neck; extreme nervousness, extreme tiredness, confusion, memory loss, dizziness, migraine headaches, burning of eyes, allergies, impairment of immune system, blisters on body.

Late symptoms of palladium poisoning include:

dying of the teeth, granulomas, puss pockets with dead tissue, swollen tongue; nerve pain in the face; paralysis of face; muscle cramps of tongue, lips, around eyes; sinus infection, bronchitis and lung ailment without clear reason; difficulty breathing at night; problems with stomach, intestines, liver, bladder, kidneys; weight loss; joint and muscle pain; muscle cramps and weakness; ear noise; visual disturbance; depression, insomnia; outbreaks of sweat, palpitations, difficulty concentrating.

References

- (1) A.Schedle et al, "Response of fibroblasts to various metal cations" J Dent Res, Aug 1995, 74(8):1513-1520.
- (2) L. Niemi et al, "In vitro cytotoxicity of Ag-Pd-Cu based alloys", J Biomed Mater Res, May 1985, 19(5):549-561.
- (3) S.Takeda et al, "Corrosion behavior of Ag-Pd alloys and its cytotoxicity", shika Zairyo Kikai, Nov 1990, 9(6):825-830.
- (4) A.M. Al-roubaie, "Condition of the periodontion of teeth with silver palladium bridge", Fogorv Sz, Jul 1986, 79(7):207-212.
- (5) D. Downey, "Contact mucositis due to palladium", Contact Dermatitis, Jul 1989, 21(1):54.
- (6) J.A.Marcusson, "Contact allergies to palladium chloride", Contact Dermatitis, May 1996, 34(5): 320-323.
- (7) J.Vilaplana et al, "Adverse oral mucous membrane reactions to dental prostheses", Feb 1994, 30(2): 80-84.
- (8) A Henston-Pettersen, "Casting Alloy side effects", Adv Dent Res, Sep 1992,6:38-43.
- (9) G.M.Kolesova et al, "Effect of Palladium compounds on mitochondrial enzymatic systems", Vopr Med Khim, sep 1979, 25(5):537-540.
- (10) J.D. Spikes et al, "Enzyme inhibition by palladium", Biochem Biophys Res Commun, 1969, 8; 35(3):420-422.
- (11) M.D. Shultz et al, "Palladium- a new inhibitor of cellulase enzyme activity", Biochem Biophys Res Commun, Apr 1995, 209(3):1046-1052.
- (12) Y Kawata et al, "Cytotoxicity of Pd-Co dental alloys", J Dent Res, file://A:\Adverse%20Health%20Effects%20of%20Palladium.htm 15-11-01