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Title: Hematology and blood chemistry in saturation diving: I. Antiplatelet drugs, aspirin, and VK744

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Keywords: human

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Abstract: Blood chemistry and cellular parameters were studied before, during, and after saturation (2.4 ATA) dives in the HYDRO-LAB habitat on two separate occasions. In both, platelet count fell greater than 20 percent 12-24 hours after surfacing and moderate (5 percent) reductions in hemoglobin, red-cell count, and packed-cell volume were observed. Plasma cholesterol and triglyceride levels were depressed postdive as were most plasma enzymes (GOT, GPT, CPK, LDH, ALP). The latter changes were very slight. In the first study, the incidental ingestion of aspirin by some divers did not prevent the loss of platelets even though the platelet-release reaction in response to ADP was inhibited. In the second study the platelet-suppressive drug VK744 was administered, on a double-blind randomized basis, to six divers, six others taking a placebo capsule. Dosage of VK744 was 300 mg TID for 2 days before, 5 days during, 3 days after saturation dive. The drug inhibited the postdive loss of circulatory platelets and in fact the treated group showed a rebound in platelet count above control values, 48-72 hours postdive. Megathrombocyte counts indicated the production of new platelets in both groups at this point. The treated group also showed a marked and significant reduction in plasma cholesterol and triglycerides, suggesting an antilipidemic effect of the drug. These results confirm previous observations and indicate that postdecompression loss of platelets may be related to sequestering of reactive platelets, possibly by microbubbles, and that the phenomenon can be inhibited by some antiplatelet drugs. Adult

Alkaline Phosphatase/blood Aspartate
Aminotransferases/blood Aspirin/*pharmacology
*Blood Platelets/drug effects Cholesterol/blood
Creatine Kinase/blood *Diving Erythrocyte Count
Female Human L-Lactate Dehydrogenase/blood Male
Morpholines/*pharmacology
Pyrimidines/*pharmacology Support, U.S. Gov't,
Non-P.H.S. Triglycerides/blood

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