Abstract

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Iodine and selenium deficiency associated with cretinism in northern Zaire.

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OBJECTIVE: Selenium status was determined in an endemic-goiter area and in a control area of Zaire.

RESULTS: Compared with the reference values of a noniodine-deficient area, serum selenium in subjects living in the core of the northern Zaire endemic-goiter belt (Karawa villages) was seven times lower in 52 school-children and similarly low in 23 cretins; erythrocyte glutathione peroxidase (RBC-GPX) was five times lower in schoolchildren and still two times lower in cretins ($P = 0.004$). In a less severely iodine-deficient city of the same endemia (Businga), selenium status was moderately altered. RBC-GPX activity was linearly associated with serum selenium concentration up to a value of 1140 nmol/L and leveled off at approximately 15 U/g Hb at greater selenium concentration. At Karawa villages, selenium supplementation normalized both the serum selenium and the RBC-GPX.

CONCLUSION: This combined iodine and selenium deficiency could be associated with the elevated frequency of endemic myxedematous cretinism in Central Africa.

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