

Yellow discolouration

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CASE REPORT

A 47-year-old man was hospitalised for erysipelas. Apart from a painful, swollen leg and a fever, he had no other complaints. He had documented diabetes mellitus since 1994. His medication comprised mixtard, rosiglitazone/metformin, atorvastatin and aspirin. On physical examination he was obese with a body weight of 146 kg. His right leg showed signs of erysipelas and he had a striking yellow discolouration of his skin. The discolouration was most prominent on the palms of his hands (*figure 1*) and the plantar sides of his feet. His sclerae were not discoloured and the serum bilirubin level was normal.

WHAT IS YOUR DIAGNOSIS?

See page 57 for the answer to this photo quiz.

Figure 1. Yellow discolouration on the left hand palm



ANSWER TO PHOTO QUIZ (ON PAGE 56)

YELLOW DISCOLOURATION

DIAGNOSIS

The localisation of the yellow discolouration without involvement of the sclerae suggested the diagnosis of hypercarotenaemia. The dietary intake of this obese man consisted of two large cans of vegetables at breakfast, one small tin of vegetables with two peanut butter sandwiches at lunch and between meals six tomatoes, two oranges and three apples. At dinner he ate two eggs, 500 g of green beans and one large can of vegetables. High-performance liquid chromatography revealed an increased serum β -carotene at $1.16 \mu\text{mol/l}$ (0.07 to 0.88), with a normal vitamin A of $1.64 \mu\text{mol/l}$ (0.69 to 2.79) levels. Porphyria and hypothyroidism, which increases the susceptibility for hypercarotenaemia, were excluded. His medical history of diabetes mellitus type 2 may add to the carotenaemia. However, in this case, the high intake of vegetables is the primary cause. Toxicity of β -carotene is considered low, but there are insufficient safety data on β -carotene supplementation. The suggestion that β -carotene may reduce the risk of cancer is derived from epidemiological studies, but could not be confirmed by clinical trials, which even showed harmful effects in smokers.^{1,2} When the intake of vegetables is normalised, serum carotene levels return to normal.

REFERENCES

1. Diplock AT. Safety of antioxidant vitamins and beta-carotene. *Am J Clin Nutr* 1995;62:1510S-6.
2. Hathcock JN. Beta carotene. In: *Vitamin and Mineral Safety*. 2nd edition. Washington: Council for responsible nutrition, 2004.