NEUROLOGICAL PICTURE

Tetanus originating from a benign scalp tumour

A 59 year old man had a benign scalp tumour (figure A) for over 20 years. He had not received primary immunisation against tetanus. He experienced generalised tetanus, manifested by rigidity of the masseter muscles (trismus, figure B), followed 24 hours later by rigidity of the axial musculatures (opisthotonus) and paroxysmal, violent muscle contractions (reflex spasms). The patient underwent complete surgical removal of the scalp tumour because of the lack of other possible sources of tetanus. The tumour was a solitary trichoepithelioma, and anaerobic cultures showed *Clostridium tetani*. The identification of *Clostridium tetani* in this case was based on the characteristic slender shape of the anaerobic bacillus with a terminal spherical spore (figure C, gram stain, originally $\times 1000$) and the mouse toxin neutralisation test. The patient's muscle rigidity and spasms were controlled by benzodiazepine and neuromuscular blockades under ventilatory support, and he was successfully treated by a combination of human tetanus immunoglobulin, tetanus toxoid, and antibiotics.

Tetanus usually follows an acute injury in which the spores are introduced into the injured tissue. Malignant hypoxic necrotic tumours are occasional but unusual sites of infection. However, no patients with tetanus originating in a benign skin neoplasm have been reported previously. Our present case shows that a benign neoplasm of the skin can be predisposed to clostridial infection.

KEN JOHKURA
YOSHIYUKI KUROIWA
Department of Neurology

MASAMICHI HARA

Division of Clinical Laboratory Medicine, Urafune Hospital, Yokohama City University, Urafune-cho, Minami-ku, Yokohama 232, Japan

Correspondence to: Dr Ken Johkura, Department of Neurology, Urafune Hospital, Yokohama City University, Urafune-cho, Minami-ku, Yokohama 232, Japan.
Telephone 0081 45 261 5656; fax 0081 45 253 7346; email: kjm0502@urahp.yokohama-cu.ac.jp