



**Figure.** Computed tomographic scan of the abdomen revealing lymphadenopathy with central necrosis near the head of the pancreas (arrows).

tected using immunocytochemistry on lymph node tissue in a prospective study of 10 patients with Kikuchi's disease (6). Acute parvovirus infection should be considered in the differential diagnosis of patients with rash, polyarthropathy, and lymphadenopathy.

Leonard B. Johnson, MD  
Anita Pasumarthy, MD  
Louis D. Saravolatz, MD  
Division of Infectious Disease  
Department of Internal Medicine  
St. John Hospital and Medical Center  
Detroit, Michigan

1. Woolf AD, Campion GV, Chishick A, et al. Clinical manifestations of human parvovirus B19 in adults. *Arch Intern Med.* 1989; 149:1153–1156.
2. Meyer O, Kahn MR, Grossin M, et al. Parvovirus B19 infection can induce histiocytic necrotizing lymphadenitis (Kikuchi's disease) associated with systemic lupus erythematosus. *Lupus.* 1991;1:37–41.
3. Shirono K, Tsuda H. Parvovirus B19-associated haemophagocytic syndrome in healthy adults. *Br J Haematol.* 1995;89:923–926.
4. Yufu Y, Matsumoto M, Miyamura T, et al. Parvovirus B19-associated haemophagocytic syndrome with lymphadenopathy resembling histiocytic necrotizing lymphadenitis (Kikuchi's disease). *Br J Haematol.* 1997;96:868–871.

5. Sadahira Y, Yoshimoto S, Manabe T. Parvovirus B19-associated transient pure red cell aplasia with lymphadenopathy: a case report. *Pathol Int.* 1998;48:829–833.
6. Chiu CF, Chow KC, Lin TY, et al. Virus infection in patients with histiocytic necrotizing lymphadenitis in Taiwan. Detection of Epstein-Barr virus, type I human T-cell lymphotropic virus, and parvovirus B19. *Am J Clin Pathol.* 2000;113:774–781.

## SWIMMING, SNORKELING, BREATHING, SMELLING, AND MOTORCYCLING AFTER TOTAL LARYNGECTOMY

### To the Editor:

Total laryngectomy, the only curative therapy for extensive laryngeal cancer, is associated with substantial physical disability and psychological effects. Apart from the loss of voice, there are other consequences associated with breathing through the tracheostoma, such as an increased risk of tracheopulmonary infection, suffocation by intrusion of a foreign object, and water aspiration. In addition, there is total or partial loss of smell (1). Although anosmia after laryngectomy is considered by most to

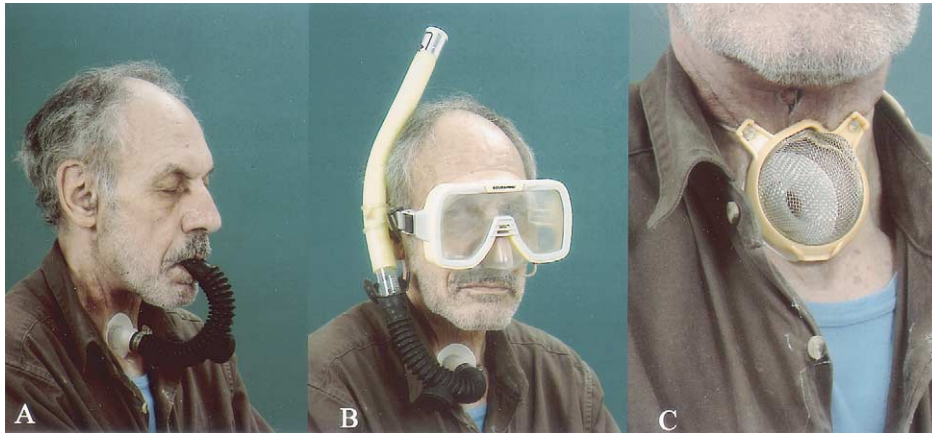
be due to the lack of nasal airflow, surgical interference with sensory feedback mechanisms from the larynx to the olfactory system may be involved (2). We report the case of a 68-year-old man who underwent total laryngectomy for recurrent cancer.

Before surgery, the patient was an active swimmer and a passionate motorcyclist. A few months after surgery, he presented with two self-made devices for living assistance. The first was a larynx bypass fabricated from his diving equipment (Figure, A and B), which allowed him to snorkel, swim, smell, and breath through the nose. The device was made of a plastic diving tube connected to the tracheostoma, and it was fixed in a waterproof manner with a metallic pipe coupling. A snorkel could also be connected instead of the mouthpiece.

Testing with "Sniffin' Sticks" (Burghart, Wedel, Germany) (3) showed that olfaction improved from hyposmia (23.5 points) without the larynx bypass, to normosmia (33.5 points) with the device (scale of 0 to 48 points; anosmia <16 points, normosmia >31 points), supporting the suggestion that hyposmia after laryngectomy is due to the nonfunctioning nose (4) rather than postsurgical neuronal modification.

The second device (Figure, C), a metallic tea strainer fixed by a ribbon around the neck, served as a protective aid during motorcycling. It prevented insects from entering the tracheostoma, as well as occlusion of the tracheostoma by clothing. As most patients face a difficult rehabilitation program after laryngectomy, physicians should be aware of potential, simple ways of improving quality of life after surgery (5).

Basile N. Landis, MD  
Roland Giger, MD  
Jean-Silvain Lacroix, MD, PhD  
Pavel Dulguerov, MD  
Clinique et Policlinique d'ORL et de  
Chirurgie Cervico-Faciale  
Hôpitaux Universitaires de Genève  
Geneva, Switzerland



**Figure.** Larynx bypass (A) and snorkeling device (B) made by patient from diving tubes, and modified tea strainer (C) for tracheostoma protection.

1. Henkin RI, Hoye RC, Ketcham AS, Gould WJ. Hyposmia following laryngectomy. *Lancet*. 1968;2:479–481.
2. Hoye RC, Ketcham AS, Henkin RI. Hyposmia after paranasal sinus exenteration or laryngectomy. *Am J Surg*. 1970;120:485–491.
3. Hummel T, Sekinger B, Wolf SR, Pauli E, Kobal G. ‘Sniffin’ sticks’: olfactory performance assessed by the combined testing of odor identification, odor discrimination and olfactory threshold. *Chem Senses*. 1997; 22:39–52.
4. Mozell MM, Schwartz DN, Youngentob SL, Leopold DA, Hornung DE, Sheehe PR. Reversal of hyposmia in laryngectomized patients. *Chem Senses*. 1986;11:397–410.
5. Gray RF. Swimming after laryngectomy. *Laryngoscope*. 1982;92:815–817.