

to establish an optimal dose schedule. Large doses of thyroxine or triiodothyronine may place a severe demand on the cardiovascular system and result in the appearance of arrhythmias or a strain pattern on the ECG. Adequate respiratory support with mechanical ventilation may be indicated. The external application of heat is probably not necessary. (Royce, P. C.: *Severely Impaired Consciousness in Myxedema—A Review*, *Amer. J. Med. Sci.* 261: 46 (Jan.) 1971.)

EDITOR'S COMMENT: A review article that covers the pathophysiology of myxedema. The anesthesiologist should be familiar with this disease, first because he may be called upon to treat patients with coma and respiratory failure due to myxedema, and second because it emphasizes the gamut of pharmacologic responses influenced by the patient's hormonal balance. Drug dosages generally recommended for the otherwise-fit human being do not apply to the hypothyroid individual.

Respiration

TRACHEAL INJURY One hundred and three patients treated with tracheostomy and assisted ventilation for various reasons were studied. At the time of removal of the tube, the stoma and distal trachea were examined endoscopically. Clinical and radiographic examinations of the trachea were performed three weeks and three months following extubation. Some loss of airway diameter at the stoma level occurred in almost every patient. Twelve patients had 25 to 50 per cent reduc-

tions in airway diameter without clinical evidence of disability, while 17 patients had symptomatic and functionally significant tracheal strictures. In the latter group, strictures occurred at the level of the stoma in 12 patients and at the level of the inflatable cuff in six. Two patients died from airway obstruction and two developed tracheoesophageal fistulas. Factors found to predispose to symptomatic stenosis were: a large tracheostomy tube; administration of large doses of steroids (more than 30 mg/day of prednisone for more than three days); and sex (women had a higher incidence than men). The following factors were not significantly related to the incidence of stenosis at either cuff or stoma level: age; length of time the cuffed tracheostomy tube was left *in situ*; peak airway pressure generated by the ventilator; pre-existing pulmonary disease; hypotension during the period of ventilation; airway infection. It is recommended that any patient who has a long-standing tracheostomy have his airway examined at the time of extubation. (Andrews, M. J., and Pearson, F. G.: *Incidence and Pathogenesis of Tracheal Injury following Cuffed Tube Tracheostomy with Assisted Ventilation: Analysis of a Two-year Prospective Study*, *Ann. Surg.* 173: 249 (Feb.) 1971.)

EDITOR'S COMMENT: The importance of cuff design and pressure in maintaining the integrity of the tracheal mucosa has been demonstrated with overwhelming evidence. I doubt that this will cure all potential abnormalities, but clinical experience so far suggests that it has helped.