enzyme induction resulting from either phenobarbital or diazepam seemed unlikely. Indeed, our clinical impression that succinylcholine-induced neuromuscular blockade was less in the presence of chronic phenobarbital therapy was not supported by increased plasma pseudocholinesterase activity.

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Malignant Acanthosis Nigricans and Anesthesia

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Acanthosis nigricans is characterized by symmetric, verrucose hyperplasia of the skin, with hyperpigmentation. When the condition is severe, the skin develops a papillary quality. The distribution is predominantly in the body folds. If extensive involvement occurs, lesions may be seen on the lips, palate and buccal mucosa. This disease may be benign or malignant, the latter form being associated with a variety of malignant neoplasms, usually of the gastrointestinal tract. Since 1889, about 500 cases of acanthosis nigricans have been reported. Thus, although well known, it is still a rare syndrome, especially if only the cases with extensive oral mucous membrane involvement are considered. The following report describes a patient with the malignant form of the disease that posed a problem during induction of general anesthesia.

REPORT OF A CASE

A 74-year-old man had been in good health until a year before admission to the hospital, when he had noticed warty, dark, thick folds over the wrists, gmin, and neck. These accentuated skin markings had increased during the six months prior to admission. At the same time he had had a significant weight loss and difficulty in swallowing, and lesions of the oral mucosa had developed.

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guineous oral secretions was necessary, the trachea was not extubated until 90 minutes after the patient's arrival in the recovery unit, when an adequate return of protective reflexes was evident. The postoperative course was uneventful.

**DISCUSSION**

Extensive involvement of the oral mucous membranes with lesions of acanthosis nigricans occurs predominantly in patients with the malignant form of the disease, which represents about 26 per cent of reported cases. The associated malignant tumor is intra-abdominal in more than 90 per cent of the cases, and is usually in the stomach. As in the case mentioned above, patients with the malignant form of the disease occasionally are treated by surgical exploration in search of a resectable primary carcinoma for palliative purposes. Following resection of the primary carcinoma, the mucocutaneous changes of acanthosis nigricans may regress.

Experience with the present case suggests that in future considerations of the anesthetic management of such patients, priority should be given to a regional technique of anesthesia, and if an inhalation technique seems most desirable, then serious consideration should be given to awake intubation before induction of anesthesia. The anesthetist should maintain an index of suspicion as to the extent of oral abnormalities associated with malignant acanthosis nigricans and the possible adverse consequences of using a common, seemingly routine, method for induction of general anesthesia.

**REFERENCES**


**FIG. 1.** Patient with orotracheal tube in place. Note the involvement of the lips, gums, tongue, and palate with papillomatous lesions of acanthosis nigricans.

previous administration of atropine. The initial attempt at tracheal intubation was a failure because the usual anatomic guidelines were obscured by blood and the mucosal lesions. Maintenance of adequate ventilation was difficult without the insertion of an oropharyngeal airway. Fortunately, after meticulous suctioning and repeated doses of succinylcholine, the glottis was visualized during the third attempt at tracheal intubation. The perilaryngeal mucosa was edematous. A 32 Fr orotracheal tube was inserted. Anesthesia was then maintained with halothane, 1 per cent, and nitrous oxide–oxygen, 60:40 per cent. D-Tubocurarine was administered in doses sufficient to produce optimal surgical conditions. The operation was completed within an hour and 15 minutes, with no resectable tumor being found. The neuromuscular blockade was reversed and the patient transferred to the recovery room with the orotracheal tube in place. Because frequent suctioning of excessive san-