

hypersensitivity and anaphylactoid reactions do occasionally occur.³ Heparin is remarkably stable in solution, and tests at dilutions of 1 unit/ml in 5 per cent dextrose have shown no deterioration for as long as 60 hours.⁶ Freshly prepared flushing solution was used in both cases reported, and in neither case was it more than 24 hours old when removed. Collapsible plastic containers with air exclusion were used for the fluid.

In conclusion, two cases of ischemic changes of the skin of the forearm following radial-artery cannulation are reported. It is suggested that care be taken to observe the response to a bolus injection of flushing fluid after positioning the tip of the cannula. Careful observation of the arm for signs of cutaneous ischemia, and prompt relocation of the cannula should they occur, may prevent permanent damage.

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Anesthetic Management of Cholecystectomy in a Patient with Buccal Pemphigus

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Pemphigus, a chronic disease of worldwide distribution, is characterized by bullous eruptions of the skin and mucous membranes of the mouth, conjunctiva, and genitalia. The disease is thought to result from a loss of intercellular bridges, resulting in the separation of the epidermal cells, edema, and bulla formation.¹ Eruptions may occur spontaneously or may be precipitated by trauma, stress, allergies, drug sensitivities, or infections.² Mortality is greater than 90 per cent,

with an average duration of life of 14 months after onset, if untreated. Steroid therapy has significantly reduced mortality and extended life expectancy. Death usually results from fluid, electrolyte, and protein loss, or secondary infection. Difficulty in swallowing can lead to cachexia.¹ The fragility of the mucous membranes of such patients poses obvious problems in anesthetic management.

REPORT OF A CASE

The patient was a 77-year-old Caucasian woman. Ten weeks prior to admission she had had an attack of right-upper-quadrant abdominal colic and fever. Her symptoms had abated in four days. A second attack had occurred ten days later, and on roentgenographic examination, a solitary radiolucent gallstone was seen. The patient was scheduled for elective cholecystectomy.

On admission, the patient gave a history of recurrent severe buccal ulcerations which had first

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developed 11 years prior to the present admission. A diagnosis of pemphigus was made from histologic examination of a biopsy specimen. The lesions caused her difficulty and pain with swallowing, and occasionally made her cough. She had, however, not experienced any difficulty breathing. Despite a known history of senile osteoporosis, corticosteroid therapy was started, with good clinical response. At the time of admission the patient had been taking prednisone, 7.5 mg every second day, and had been clear of buccal lesions for three weeks.

The patient was short (133 cm), obese (66 kg), and moon-faced, with thin, friable, dry skin. Blood pressure was 160/90 torr. Physical examination was unremarkable. Hemoglobin was 11.2 mg/100 ml and plasma creatinine, 1.4 mg/100 ml. An EKG showed left ventricular hypertrophy and right bundle-branch block. Roentgenogram of the chest confirmed left-sided cardiomegaly.

On the morning of the operation, after premedication with diphenhydramine, 75 mg, and meperidine, 50 mg, intramuscularly, epidural anesthetic was administered. An 18-gauge Touhy needle was inserted at the T9-10 interspace, using a Macintosh balloon as visual indicator.² After a 2-ml test dose, a catheter was inserted cephalad 3 cm and 12 ml of 3 per cent 2-chloroprocaine with 1:200,000 epinephrine were injected. The patient was then given ketamine hydrochloride, 350 mg, intramuscularly. The operation was performed with the patient in 10 degrees head-up tilt. Muscle relaxation was good, and the airway was patent throughout. About 20 minutes after the first epidural injection, the blood pressure decreased to 90/50 torr, and a slow infusion of metaraminol was administered for about 15 minutes to maintain systolic pressure between 100 and 120 torr. Forty minutes after the initial epidural injection, a further 4 ml of local anesthetic were given, and at the end of the operation, which took about 60 minutes, the blood pressure was 100/60 torr. During transfer to the recovery room, however, the blood pressure decreased to 85/60 torr and the pressor infusion was resumed for a short time. Fifteen minutes after arrival in the recovery area, the patient was awake, and at that time pin-prick showed that anesthesia extended from T4 to L1.

Two hours postoperatively the patient began to complain of abdominal pain, and 4 ml of 0.15 per cent tetracaine, with 1:200,000 epinephrine, was injected through the catheter. This relieved the pain without causing a decrease in blood pressure. Additional injections of 4 ml of the tetracaine-epinephrine solution were given six, 11, 24, and 30 hours postoperatively. After each injection, anesthesia extended from T5 to T11. The blood pressure did not decrease below 110/60 torr. The morning after the operation, a small hemorrhagic area was visible on the soft palate, and by the next day two typical ulcers had developed. These ulcers healed, and the patient was discharged from hospital on the tenth postoperative day.

DISCUSSION

Buccal pemphigus resembles closely the oral manifestations of epidermolysis bullosa dystrophica, a condition which has been the subject of several reports in the anesthetic literature.⁴⁻⁶ In our opinion, possible development of ulceration, bulla formation or edema about the glottis in response to endotracheal intubation represented a potentially lethal hazard to this patient. Even an oropharyngeal airway seemed a possible source of complications, hence the choice of an epidural anesthetic. The placement of the epidural catheter in the thoracic, rather than the lumbar, region was selected in an attempt to minimize decreases in blood pressure by lessening the extent of the sympathetic block. The initial decrease in blood pressure resulted from an overestimation of the amount of local anesthetic that would be needed to produce a satisfactory epidural block. The possibility of visceral pain through unblocked vagal paths and the patient's anxious personality made deep sedation or light anesthesia desirable. Ketamine offered a means whereby insensibility could be induced with minimal risk of airway obstruction or respiratory depression.

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