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Caustic Skin Burns Following Contact with Solution from Exhausted Carbon Dioxide Absorption Canister

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This communication illustrates the need for care in preventing highly alkaline carbon dioxide absorbing materials from coming in contact with skin surfaces of patients.

During the emptying of an exhausted carbon dioxide circle filter, several moisture-laden granules of barium hydroxide lime (Baralyme) accidentally fell upon the sheet covering the operating table cushion. These granules were brushed from the sheet and the adjacent draw-

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sheet. Ten minutes later a patient was placed upon the table in the supine position for a procedure requiring thirty minutes of general anesthesia.

Nine hours later the patient complained of some discomfort over the scapular area of the right upper back. Examination revealed the presence of 7-8 circular raised areas, measuring 1.0-1.5 cm. in diameter with peripheral redness and edema. The centers consisted of a dry eschar-like material without vesicle formation. The area was treated with sterile nitrofurazone dressings and on the following day several additional smaller areas of involvement were noted.

A 5.0-ml. sample of liquid, aspirated from the bottom of a similar circle filter with an exhausted barium hydroxide lime charge, was found to have a pH of 13.9.

It must be assumed that some highly alkaline drops of liquid, formed through the chemical absorption of carbon dioxide by alkaline hydroxides, remained upon the sheet beneath the patient after the granules were grossly removed. The caustic burns probably resulted from skin contact with the moistened sheet.

Over the following ten weeks the burned areas healed with the exception of four 1.0 cm. spots resembling slightly raised pink granulomas. These were treated with superficial radiation therapy over the following month, and at fourteen weeks after operation had decreased in redness and elevation (fig. 1).



FIG. 1. Caustic skin burns following contact with solution from exhausted carbon dioxide absorption canister, 14 weeks after anesthesia.

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