Eyelid Oleogranulomas Caused by Petroleum Jelly Injection

A 22-year-old black man who was distressed by what he perceived to be abnormal skin wrinkles injected petroleum jelly (Vaseline, Chesebrough Ponds Inc, Greenwich, Conn) subcutaneously into both lower eyelids. He presented one week after injection with firm, nontender, symmetric, crescent-shaped masses (Fig 1). No symptoms occurred during four months of observation. A lower-lid blepharoplasty then revealed firm, yellowish, somewhat granular material that was greasy in texture (Fig 2).

Microscopic evaluation showed muscle infiltrated with lymphocytes and plasma cells and distortion with proliferation of fibrotic tissue. Numerous cystic spaces that appeared empty on paraffin sections were lined by small, flat cells whose cytoplasm contained foamy, pale-staining material (Fig 3). In other areas, the cystic spaces were lined by foreign-body giant cells (Fig 4). Frozen sections stained with oil red 0 demonstrated lipid in the spaces that appeared empty on paraffin sections (Fig 5).

COMMENT

The fate of subcutaneously injected petroleum jelly and silicone material in humans is not precisely known. Several laboratories have found no acute inflammatory response.[1-4] However, the foreign material was engulfed by histiocytes and transported to regional lymph nodes and was eventually distributed throughout the reticuloendothelial system.[1-4]

In the case reported herein, much of the oleogranuloma was excised surgically. It was not possible to remove all the foreign material that had infiltrated the tissues of the eyelids and orbits. Early in the postoperative course there was moderate improvement in the appearance of the lids. The patient was subsequently unavailable for follow-up.

JAMES R. BOYNTON, MD
STEVEN S. SEARL, MD
JEFFREY L. HEIMER, MD
Rochester, NY
ELIZABETH A. MILLER, MD
Savannah, Ga

References

1. Ben-Hur N, Ballantyne DL Jr, Rees TD, et al: Local and systemic effects of dimethylpolysiloxane fluid in mice. *Plast Reconstr Surg* 1967; 39:423-426.
2. Rees T, Ballantyne DL Jr, Seidman I, et al: Visceral response to subcutaneous and intraperitoneal injections of silicone in mice. *Plast Reconstr Surg* 1967;39:402-410.
3. Bollinger JN: Metabolic fate of mineral oil adjuvants using ^{14}C-labeled tracers: II. Mannide monooleate. *J Pharm Sci* 1970;59:1088-1092.
4. Rees TD, Ballantyne DL Jr, Seidman I, et al: An investigation of cutaneous response to dimethylpolysiloxane (silicone liquid) in animals and humans: A preliminary report. *Plast Reconstr Surg* 1965;35:131-139.

Downloaded From: http://archopht.jamanetwork.com/ by a University of Manitoba User on 06/17/2015

Fig 1.—Appearance of patient several weeks after injection of petroleum jelly into both lower eyelids.

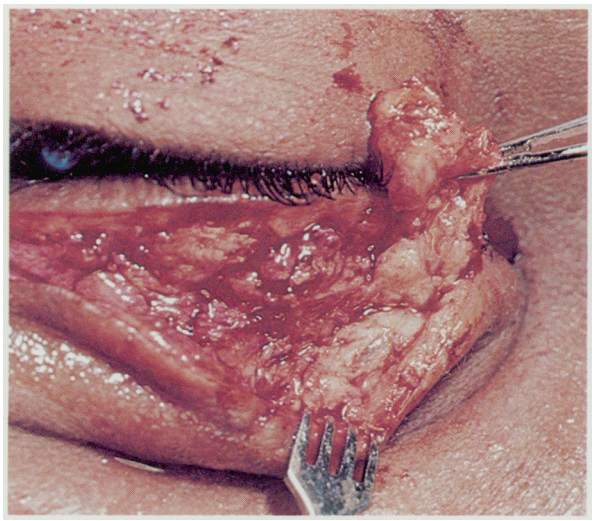

Fig 2.—Appearance of firm, granular material within eyelid at surgery.

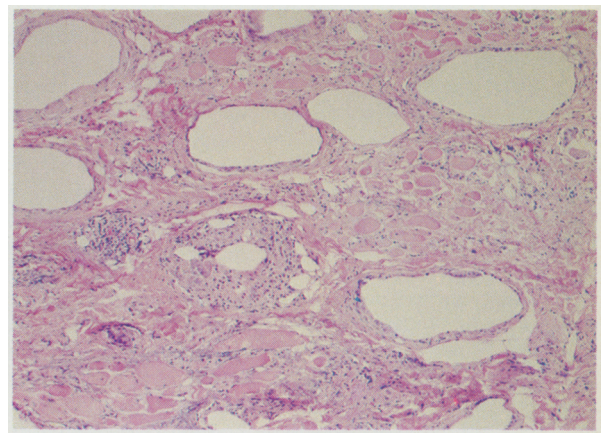

Fig 3.—Muscle and subcutaneous tissue are infiltrated with chronic nongranulomatous inflammatory cells and numerous cystic spaces (hematoxylin-eosin, original magnification ×10).

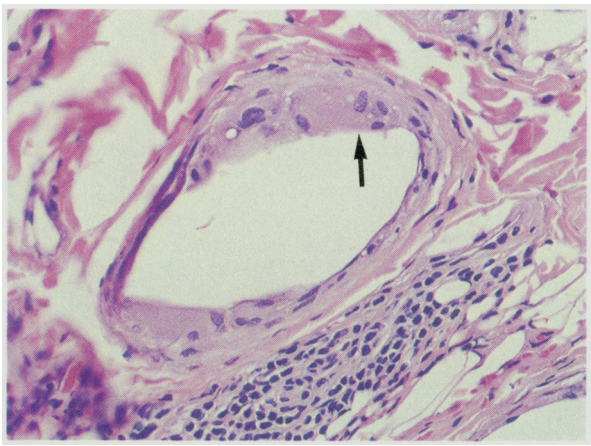

Fig 4.—Paraffin section. Spaces appear empty and are lined by epithelioid cells containing foamy cytoplasm. Cells are multinucleated (arrow) (hematoxylin-eosin, original magnification ×10).

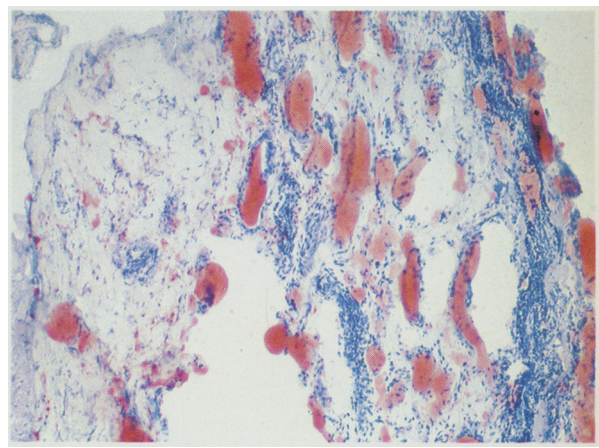

Fig 5.—Same tissue as in Fig 4, prepared by frozen section and stained with oil red O, reveals that "empty" spaces are filled with lipid material (original magnification ×10).

Downloaded From: http://archopht.jamanetwork.com/ by a University of Manitoba User on 06/17/2015