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EPIDERMOID CYST FORMATION SEVENTEEN YEARS FOLLOWING CUTIS GRAFT REPAIR OF INCISIONAL HERNIA

G. D. COURIS, M.D.* AND J. H. WYLIE, M.D.*

The use of cutis or skin grafts for the repair of inguinal or incisional hernias has been very limited in this country. The reliability and the constant improvement of synthetic prosthetic materials further discourages the use of tissues such as the skin, cutis or fascia. One of the complications, and therefore disadvantages, is the formation of epidermoid cysts. The following case is illustrative and interesting in that the cyst formation occurred 17 years after the repair of the hernia.

L.E. a 60-year-old white male was first treated here in April, 1940 for empyema of the gallbladder. Cholecystectomy and drainage of the abdomen was performed through a right subcostal incision. He was operated on again in September, 1942 for an incisional hernia. A second repair was found necessary in May, 1943 when a cutis graft was sutured over the overlapped fascial layers. The dermatome-flap method was used and the case was reported by Swenson and Harkins.1

During the following 17 years the patient was admitted to the hospital on several occasions for reasons unrelated to the hernia repair. A questionable small epigastric mass was palpated twice, in 1948 and 1957, but there was no hernia and the patient was asymptomatic. Finally, in January, 1961, further operative treatment was found necessary for what was diagnosed as an incarcerated recurrent incisional hernia. Instead, a large cyst was encountered at operation. The cyst, measuring approximately 10 X 4.5 cm and containing 200 cc of sebaceous material, had originated from the undersurface of the cutis graft and had developed between the graft and the fascial layers. It was extending from the supraumbilical region to both costal margins and the xiphoid process. Since there was no hernial defect present, the fascia was left undisturbed, the cutis graft and the cyst walls were excised and the wound closed and drained. The postoperative course was uneventful and the patient was discharged on the eighthday. Three years later, the patient was operated on again for benign colonic polyp and had developed well-documented superior mesenteric artery insufficiency but no further complications have occurred in the site of the excised cyst.

DISCUSSION

The use of cutis graft for plastic operations originated in Germany by Loewe in 1913. Rehn in 1914 employed cutis for tendon grafts and in the repair of large hernias, apparently with considerable success. The contributions by Uihlein19 and Maier11 further popularized the techniques of the use of cutis or whole skin grafts in the repair of hernias in general. Cannaday3 in 1942 first reported on the use of cutis graft in this country. Swenson and Harkins18 introduced the dermatome-flap

*Division of General Surgery.
method of obtaining cutis. Although sporadic reports have appeared subsequently in the literature\textsuperscript{1,2,7,12,16} and cutis or skin are still being used in the repair of hernias in Europe, the method has not been received favorably in the United States.

Cutis may be defined as skin devoid of its epidermal covering but containing cutaneous and subcutaneous structures, that is, sweat and sebaceous glands, hair follicles and some of the subdermal fat. Rapid healing, good blood supply, great vitality under adverse conditions, possession of great tensile strength and elasticity are some of the properties claimed by the advocates of the use of cutis. Some authors prefer the use of whole skin and consider the removal of epidermis as an unnecessary step.\textsuperscript{9,17} Whatever the advantages may be, complete hemostasis, anatomically lean bed and, most important, application under the greatest possible tension are essential prerequisites in the use of cutis or skin as a prosthesis for hernia repair.

Aside from complications that may occur after any other type of hernia repair, such as hematoma, wound infection and recurrence, no added risk is attributed to the use of cutis by its proponents. Peer and Paddock\textsuperscript{13} demonstrated degeneration and subsequent disappearance of epidermal elements from cysts produced in humans after burying fragments of cutis. However, cyst formation following repair of hernias with cutis or whole skin occurs and has been reported.\textsuperscript{6,8,14,15,17} The relative data is presented in Table I.

Although we have not had personal experience with the use of cutis or skin in the repairs of hernias, we feel that the possibility of cyst formation is an additional deterrent to its use. The newest synthetic prostheses are certainly stronger, heal at least equally satisfactorily and do not harbour the danger of cyst formation. In addi-

<table>
<thead>
<tr>
<th>Author</th>
<th>Cases</th>
<th>Material</th>
<th>Type of hernia</th>
<th>Interval</th>
<th>Recurrence of hernia</th>
<th>Size (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strahan 1951</td>
<td>9</td>
<td>Skin</td>
<td>Inguinal</td>
<td>16 mo.\textsuperscript{1}</td>
<td>Yes, two\textsuperscript{2} No, two</td>
<td>6.5 X 3\textsuperscript{1}</td>
</tr>
<tr>
<td>Powell et al 1952</td>
<td>1</td>
<td>Skin</td>
<td>Incisional</td>
<td>9 mo.</td>
<td>Yes</td>
<td>6.5 X 3.5</td>
</tr>
<tr>
<td>Clarke 1952</td>
<td>1</td>
<td>Skin</td>
<td>Inguinal</td>
<td>12 mo.</td>
<td>Yes</td>
<td>1.5 X 0.5</td>
</tr>
<tr>
<td>Rutter 1955</td>
<td>1</td>
<td>Cutis</td>
<td>Inguinal</td>
<td>84 mo.</td>
<td>No</td>
<td>7 X 3</td>
</tr>
<tr>
<td>Authors</td>
<td>1</td>
<td>Cutis</td>
<td>Incisional</td>
<td>113 mo.</td>
<td>No</td>
<td>10 X 4.5</td>
</tr>
</tbody>
</table>

(1) Average interval and average cyst size in nine cases.
(2) Condition of repair at the time of operation not stated in five cases.
tion, they can be used in the relative absence of adequate fascial protection whereas cutis or skin placed only over completely approximated fascial planes. Undoubtedly there is no substitute for the patient’s own tissue. Hence, if any type of prosthesis proves at times to be superfluous, the use of cutis or skin seems to be more so or even dangerous.

REFERENCES
