

eighteen days, twenty-seven days, forty-three days (Fig. 7) after the operation, and one taken five months after, show that the results remain excellent for these periods.

(b) *Physiologic Results.*—As soon as the blood is allowed to flow through the aorta, the circulation of the renal artery is re-established and appears to be practically normal. The renal vessels are surrounded by their connective tissue and protected by the peritoneum. Their caliber and their appearance are not modified. The kidney is a little redder, harder and enlarged.

Such animals walk, climb, jump and, in fact, comport themselves in a manner very like the normal the day following the operation and even, in some cases, within a few hours after the operation.

A cat into which a kidney had been transplanted was anesthetized eight days after the operation and its abdominal cavity opened by a transverse incision a little above the renal vessels. The transplanted kidney was found covered by glistening peritoneum without intestinal adhesions. The color of the kidney was a little redder, but practically normal; the organ was slightly increased in size. The circulation was excellent and even greater than before the operation. The only evidence of the operation was a bulging of the aorta and the vena cava at the point of anastomosis of the renal vessels. The excellence of the physiologic result was presumably in a large measure due to the insignificant alteration of the condition of the renal vessels and the ureter from the normal.

A female cat,² to which a kidney from another cat was transplanted four months ago, is now living in good health. The transplanted kidney is enlarged. Its consistency is a little harder and its form is normal. By palpation the pulsations of the renal artery are easily detected and appear to be normal.

These observations show that the results of the anastomoses by the patching method remain good for a long period.

CONCLUSIONS.

1. By the patching method, the termino-lateral anastomosis of blood vessels is more safely performed than by the other methods.
2. It prevents the occurrence of gangrene after the transplantation of organs even in case of slight infection.
3. The circulation of a kidney, transplanted with anastomosis of its vessels by the patching method, is excellent four months after the operation.

Clinical Notes

ACETOZONE IN TYPHOID FEVER.*

RAY HUMISTON, Ph.G., M. D.
WORTHINGTON, MINN.

For a number of years acetozone has been vigorously pushed in the treatment of typhoid fever, the manufacturers making the following claims:

1. A greater freedom from intestinal disturbances such as characteristic odor of stool, diarrhea, tympanites, hemorrhage, perforation, peritonitis.
2. A diminution of the toxemia, and the consequent improvement in physical and mental condition.

2. This animal was presented before the Section of Physiology of the meeting of the British Medical Association, Toronto, August, 1906.

* Read at meeting of Southwestern Minnesota Medical Society, Luverne, Minn., July 12, 1906.

3. The return to normal temperature more quickly.
4. A modification of the course, severity, and type.
5. Complications less frequent.
6. Relapses less frequent.
7. Recovery more prompt and certain.

We will see how far these claims are substantiated in a short series of 10 cases in which records have been kept; bearing in mind that the series is too short to indicate very much either way. All the patients in the series were treated by hydrotherapy with a milk diet. The acetozone solution contained from 15 to 20 grains to the quart, and was administered freely according to directions.

FIRST CLAIM.—FREEDOM FROM INTESTINAL SYMPTOMS.

Findings:

- One only had diarrhea.
- Nine had constipation.
- Odor of stool was modified in all cases.
- Tympanites was troublesome in but 2 cases.
- Hemorrhage was present in 2 cases.

SECOND CLAIM.—TOXEMIA DIMINISHED WITH IMPROVED PHYSICAL AND MENTAL CONDITION.

Findings:	Slight.	Moderate.	Severe.
Mental Impairment	4	1	5
Physical Impairment	3	2	5

These conditions seemed to go hand in hand. The subjects taking the most nourishment were most free from both conditions, hence suggesting free feeding to overcome mental condition.

THIRD CLAIM.—QUICKER RETURN TO NORMAL.

The fever was not considered absent until evening temperature was normal.

Findings:

- Minimum number of febrile days 18
- Maximum number of febrile days 109
- Average number of febrile days 43
- By omitting 2 cases with relapse the average is brought down to 31 days.

FOURTH CLAIM.—COURSE, SEVERITY AND TYPE MODIFIED.

Findings:

- Average evening temperature first week 102.6
- Average evening temperature second week 102.4
- Average evening temperature third week 101.4
- It should be noted that when temperature was 102 cold baths were administered every 3 hours.

FIFTH CLAIM.—COMPLICATIONS LESS FREQUENT.

Findings:

- Two had pneumonia.
- Two had hemorrhage.
- Six had no complications.

SIXTH CLAIM.—RELAPSES LESS FREQUENT.

Findings:

- One had 3 relapses, each of which took a typical course.
- Practically 4 relapses.

SEVENTH CLAIM.—RECOVERY MORE RAPID AND CERTAIN.

Findings:

- Rapid recovery, 6.
- Prolonged convalescence, 2.
- Deaths, 2; pneumonia, 1; hemorrhage, 1.

SUMMARY.

- Claim 1: Greater freedom from abdominal symptoms; claim justified.
- Claim 2: Toxemia decreased; claim not justified.
- Claim 3: Quicker return to normal temperature; claim not justified.
- Claim 4: Course, severity and type modified; claim not justified.
- Claim 5: Complications less frequent; claim not justified.
- Claim 6: Relapses less frequent; claim not justified.
- Claim 7: Recovery more rapid and certain; claim not justified.

This brings us to the real value of the drug; it prevents intestinal fermentation with the consequent tympany and diarrhea, and, in my opinion, this in a measure increases the patient's comfort and chances of recovery, but it has little value above other intestinal antiseptics.

The question arises, however, whether we are not depending too much on remedies having a local action for a general condition. We were overdoing it in the case of antipyretics. Some one said: "The only advantage of an antipyretic is to let the patient die with a normal temperature." Are we not overdoing intestinal antiseptics? Are we not simply attempting to let the patient die with a sterile intestine?

NEW APPARATUS: (1) AN ASEPTIC PROTECTIVE SHEET FOR MASTOID SURGERY, AND (2) A PRACTICAL ALGESIMETER.*

H. O. REIK, M. D.

Associate in Ophthalmology and Otology, Johns Hopkins University;
Ophthalmic and Aural Surgeon, Baltimore Eye, Ear and Throat
Charity Hospital; Visiting Ophthalmologist and Otologist
to the Cambridge-Maryland and Peninsular General
(Salisbury) Hospitals.

BALTIMORE.

I. ASEPTIC PROTECTIVE SHEET FOR MASTOID SURGERY.

One of the important problems confronting the aural surgeon is the maintenance of strict asepsis of the mastoid wound without unduly disfiguring the patient, even temporarily, by extensive removal of hair. The practice of different operators, as regards the preparation of the field for a mastoid operation, varies from removal of only a small amount of hair immediately surrounding the area to be opened, to a close shaving of the entire head. I have never felt justified in exposing an extensive area of the scalp, except in a premeditated brain investigation, and yet, in my efforts to save the patient from unnecessary loss of hair, I have frequently been sorely troubled by hairs encroaching on the wound at a critical stage of the operation.

In preparing for a simple mastoidectomy it has been my custom to have the scalp shaved for a distance of, approximately, 3 cm. and 6 cm. posterior to the auricle, then to make a skin incision parallel to the postauricular sulcus and about 5 mm. therefrom throughout its curvilinear course. The scar following a wound so situated is well hidden by the auricle and causes the least disfigurement. My best efforts, however, to protect such an operation field, by the use of sterilized rubber caps or by the application of sterile towels wound about the head, have not been productive of satisfactory results. The most carefully applied headgear is apt to become loosened by manipulation attending the operation and to permit straggling hairs to wander into the field; particularly is this true when dealing with female patients in whom the mass of hair makes it more difficult to apply the towels tightly and the longer hairs are especially prone to creep from under cover. In order to obviate these difficulties I have had a special rubber sheet made that can be neatly applied and that will surely prevent any possibility of hair encroaching on the field even though the shaved region be a very narrow one.

About three years ago my attention was attracted by an illustration, in the business catalog of the B. F. Goodrich Co., depicting a rubber operating sheet devised by Dr. Murphy of Chicago, for use in abdominal operations.

This sheet consisted of a heavy rubber apron of sufficient size to cover the entire abdomen, and in its center was inserted a small square of thin rubber tissue. The skin surface having been cleansed in the usual way preparatory to operating, the sheet was to be laid over the abdomen so that the square of thin rubber tissue came over the area to be incised and this portion was made to adhere to the skin by the application of a solution of Para rubber in chloroform. The incision was then to be made directly through the thin rubber, as through an additional layer of skin. The entire sheet could be boiled with the instruments and its adjustment rendered it impossible for any extraneous matter to enter the wound except through the direct channel. It occurred to me at once that if such a device could be employed in mastoid surgery it would very much simplify the problem of operating without much loss of hair and greatly aid the surgeon's efforts to maintain asepsis throughout his work. In order to accomplish this I have experimented with sheets of different sizes during the past two years and I offer this pattern for consideration.

Description of Sheet and Method of Use.—It consists of a heavy rubber sheet 30x30 cm. with a thin rubber insert 7x7 cm. The latter is not placed directly in the center, but toward one corner of the sheet in order to bring the greater portion to lie above and behind the operation field, where it is most needed. The anterior edge of the thin rubber section is only partially attached to the sheet and a semilunar piece has been cut away so that the auricle can be drawn through the opening and the edge of the rubber will fit in close to the post-auricular sulcus.

The mastoid region having been prepared in the usual manner for operation, a coating of Para rubber solution is applied to the skin and the protective sheet laid on and smoothed down in the proper position; it will adhere to the skin very quickly, very much as a collodion dressing does and no further fastening of the sheet is necessary, though there can be no harm in binding the loose portion of the sheet in place by sterile towels. The entire sheet can be sterilized by boiling and it may be used repeatedly but, of course, the thin insert will have to be removed and a new one attached for each case. As both sides are the same, this sheet can be used for operation on either mastoid by simply reversing it. In practical use it has given me a great deal of satisfaction but if any one can suggest any improvements to be made on it I shall be very glad to adopt them.

II. A PRACTICAL ALGESIMETER.

Some accurate means of estimating the degree of tenderness accompanying inflammations of the mastoid bone is very desirable. No other symptom of mastoiditis is so constant and none compares with it in value when considering whether or not a given case requires operative intervention. Acknowledging its importance, we have all been relying on the most primitive means of ascertaining its presence and intensity. Furthermore, we have been describing our examinations in the most inexact language as, for instance, when stating that "the mastoid was tender on slight pressure," or, "deep pressure produces exquisite tenderness," etc., such statements not conveying an intelligent idea of the exact amount of pressure exerted or the degree of tenderness elicited. What one examiner would call slight pressure might be regarded by another as firm or even deep pressure.

Hoping that such discrepancies might be prevented by the use of an instrument that will register the amount

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.