LOCALIZED GANGRENE FOLLOWING THE USE OF
QUININ AND UREA HYDROCHLORID

H. H. RIGHTOR, M.D., HELENA, ARK.

For some time I have been using the 1 per cent. solution of quinin and urea hydrochlorid, marketed in ampoules, as a local anesthetic, with very satisfactory results.

In the following instance the results might have been very disastrous.

R. C., a white man, aged 20, had just recovered from gonorrhea and was a splendid subject. The ordinary technic for the use of local anesthesia in circumcision was pursued. A rubber catheter was tied around the penis and the quinin solution injected in the line of the proposed skin and mucous membrane incision. The prepuce was removed in the usual way, and the skin sutured to the mucus membrane without the removal of any of the membrane. There was absolutely no sensation, faintness or nausea following the operation. The next morning the penis was very much swollen and of a violet hue; there was still no sensation. The patient left for his home in the country to return on the fifth day, at which time the discoloration was still present and there was still no pain. The silkworm sutures were removed at this time.

I saw the patient forty-eight hours later. There was a very foul odor, and a well-marked localized gangrene extending exactly to the end of the line of infiltration on both the mucous and the cutaneous sides of the incision. There was no suppuration at any time. With tissue forceps this gangrenous area was lifted out *en masse*, leaving a raw surface about an inch wide in the region of the frenum and one-half inch wide for the remainder of the circumference of the penis.

Fortunately no considerable amount of the prepuce had been removed, so that in a few days I was able again to approximate the skin and mucous membrane, except under the frenum. This line of sutures held and in a week was practically well, except for a short distance where the edges could not be approximated.

CLOSED EMPYEMA OF THE ETHMOID AND FRONTAL
SINUSES PRODUCING MARKED EXOPHTHALMOS

F. H. BRANDT, M.D., BOISE, IDAHO

The infrequency with which the ethmoid and frontal sinuses take part in producing displacement of the eyeball prompts me to report the following case which illustrates the extent to which this can occur without serious injury to the eye structures:

History.—The patient, Mr. J. P., aged 34, consulted me March 1, 1912, for an enlargement and displacement of the left eye, giving the history of having been taken ill with severe pain in this eye after a cold of two or three days' duration. This pain lasted three days. Since then the eye had been comfortable except for the gradual development of the swelling with its accompanying symptoms of congestion and conjunctival irritation, which has been going on for seven weeks altogether.

Examination.—The eye protruded three-quarters of an inch forward, 1 inch to the side and about three-quarters of an inch downward. The conjunctiva was greatly injected, almost venous in character; the cornea was clear and the iris functioning, but the pupil was more dilated than on the other side. Ophthalmoscopic examination showed the papilla to be mottled and its outlines indistinct; the arteries were contracted while the veins were distended and tortuous; one could well make out the swollen papilla by the course of these veins. Vision was very blurred, only 20/70. The field of vision for red and white was concentrically contracted. From these findings I diagnosed some process pushing out the eyeball. Examination of the nose seemed quite negative at first, except for a large middle turbinate on the left side; there was apparently no discharge from the middle meatus. Not being satisfied, I punctured the middle turbinate, and found a discharge of pus. The tentative diagnosis was an ethmoid abscess.

Operation.—Resection of the middle turbinate and entire removal of the ethmoid, which had undergone necrosis to a large extent, and perforation of the orbital plate were done under local anesthesia. An unsuccessful attempt was made to go into the frontal sinus. The cavity was loosely packed with xeroform gauze, which was removed the next day.

The result of this operation was a gradual return of the eye into its socket; it returned very promptly toward the median line, but a slight forward and slightly downward dislocation still persisted; as the discharge from the nose had about cleared up I sent the patient home with instructions to report should more displacement recur or a swelling appear above the eye. About a month after the first operation, a tumor about the size of a small hazel-nut was seen just below the orbital ridge and just outside of the supra-orbital notch.

The next step was a radical frontal sinus operation—the usual curved incision and removal of the floor of the sinus far enough back so that all parts of the sinus could be reached; no opening was made above the orbital ridge, as the upper part of the sinus could readily be reached from below. A perforation was found in the floor corresponding to the tumor below the ridge. The sinus was thoroughly curetted and the frontonasal duct enlarged, which, by the way, was only a little slit. The entire cavity was packed with iodoform gauze, with the strip protruding into the nose and the incision was closed with the exception of a small drain at the lower angle. The gauze was slowly removed through the nose in the course of a week, and a rubber tube, provided with a collar to keep it in place, was substituted therefor.

The external wound healed by first intention and the eyeball has returned to its normal place. Drainage through the nose was carried on very effectively, and the rubber tube was left in for two months, at which time there was no discharge, outside of some mucus. Diplopia did not occur following the last operation. The vision, as far as I can tell, has returned to about normal; the patient sees 20/30, which is a little less than in the right eye. The color fields are also a little smaller than on the other side. Bacteriologically the case showed nothing distinctive.

Interesting points in the case might be summarized as follows:

1. Absence of pain outside of the first three days.
2. No lasting rise of temperature. For two days it was 99.5 F.
3. Absence of permanent injury to the eye.
4. Absence of facial deformity following the operation.

POSTOPERATIVE HICCUP

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The following briefly described experience with a case of persistent singultus attending an appendectomy has some features of practical interest.

F. F., man, aged 38, American, machinist, developed an ordinary attack of appendicitis for which I operated at the end of thirty-six hours, when the symptoms were becoming more marked in spite of medical remedies. After removing the enlarged congested appendix containing considerable pus distal to a stenosed lumen, the abdominal incision was closed in the usual manner. The effects of the ether passed off uneventfully except for some slight irritation of a former mild bronchial catarrh which had come on in the line of his work.

On the second day, however, the patient developed a marked attack of hiccup which became more frequent and, under the circumstances, soon began to take his strength to a very noticeable degree. He had never previously been specially troubled with this disturbance. This diaphragmatic spasm ceased when the patient fell asleep, only to reappear as obstinately as ever on his awakening.

Various remedial agents were used in turn: oil of amber, Hoffmann's anodyne, ether sprayed on the epigastrium, inhalation of nitrite of amyl, counterirritation over the diaphragm, holding of the breath, psychic effect of fright, etc. There were no noticeable results.

On the third day of the attack, with the clonic spasm at its height, I passed a stomach-tube on the theory that its passage through and dilatation of the esophageal opening of the diaphragm might have a beneficial reflex effect on the phrenic and sympathetic nerves of that organ.

As the tube reached the stomach no pentup gas or fluid escaped, but the hiccup happily ceased immediately and the tube was promptly removed. In about an hour, however, the attack returned, but was instantly relieved by reinserting the stomach-tube. It remained away only two hours, but again yielded at once to the treatment. The fourth and final attack, after the lapse of about two hours more, was likewise overcome.

The further convalescence was complete and uneventful.

9510 Euclid Avenue.

A CASE OF ASYMMETRICAL, BILATERAL HERPES ZOSTER

CHARLES A. MOBLEY, M.D., VAN WYCK, S. C.

History.—The patient, a German-American woman, aged 66, gave a history of rheumatism and heart disease. I was called to see the patient on the morning of June 9, 1912. The previous day the patient had suffered with severe burning pains on the face and neck, and on awakening that morning had found a vesicular eruption in this region.

Examination.—The typical vesicular eruption of herpes zoster was found following the course of the left facial and the posterior auricular nerves, with scattered patches on the side of the neck and in the hair. None passed the median line of the head. The contents of some of the lesions were puriform. The temperature was 100; pulse 90. A mitral regurgitant murmur was heard on auscultating the chest.

From twenty-four to thirty-six hours after the first eruption the patient experienced a burning sensation in the right side of the chest, and shortly afterward vesicles developed along the course of the intercostal nerve at the seventh interspace. The majority of the lesions of this second eruption on the right side were hemorrhagic. Temperature at this time was 102; pulse 110. The lesions on the left side of the face and neck were still present.

Remarks.—An eruption of herpes zoster occurring on both sides of the body at the same time, and at different body planes, seems so rare from my search of the literature on the subject that I feel justified in reporting this case.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

NEOSALVARSAN.—Neosalvarsan is a mixture of sodium 3-diamino-4-dihydroxy-1-arsenobenzene-methanal-sulphoxylate, $\text{NH}_2\text{OH}\cdot\text{C}_6\text{H}_3\text{As}\cdot\text{As}\cdot\text{C}_6\text{H}_3\text{OH}\cdot\text{NH}(\text{CH}_2\text{O})\text{OSNa}$, with inert inorganic salts. The arsenic content of three parts of neosalvarsan is approximately equal to 2 parts of salvarsan.

Neosalvarsan is prepared by precipitating a salt of 3-diamino-4-dihydroxy-1-arsenobenzene with sodium methanal-sulphoxylate and dissolving the precipitate in alkalis. From the resultant solution neosalvarsan is obtained by the addition of alcohol or acetone, or by evaporation of the solution in a vacuum.

Neosalvarsan is an orange-yellow powder possessing a peculiar odor. It is very unstable in the air. Neosalvarsan is readily soluble in water, yielding a yellow solution which is neutral toward litmus. Upon standing the aqueous solution becomes dark brown forming a brown precipitate.

A freshly prepared aqueous solution of neosalvarsan (1 in 100) yields a precipitate on the addition of mineral acids.

If silver nitrate test solution be added to an aqueous solution of neosalvarsan (1 in 100) a brownish color should be produced quickly followed by the formation of a black precipitate.

If ferric chloride test solution be added to an aqueous solution of neosalvarsan (1 in 100) a violet color should be produced which soon changes to a dark red.

If to 10 c.c. of the aqueous solution of neosalvarsan (1 in 100) 5 c.c. of diluted hydrochloric acid be added and the mixture heated, the irritating odor of sulphur dioxide will be evolved. If to 10 c.c. of the aqueous solution of neosalvarsan (1 in 100) 5 c.c. of diluted hydrochloric acid be added, the precipitate collected on a filter and treated with zinc dust and warm, diluted hydrochloric acid in a test tube, and if paper moistened with a 5 per cent. cadmium chloride solution be held in the mouth of the tube, the paper should be stained yellow within a few minutes (distinction from salvarsan.)

If to 10 c.c. of the aqueous solution of neosalvarsan (1 in 100) 5 c.c. of diluted hydrochloric acid be added, the precipitate removed by filtration, 2 c.c. of barium chloride test solution added to the filtrate, the mixture allowed to stand for 12 hours, the precipitate of barium sulphate removed by filtration, 5 c.c. of nitric acid added to the filtrate, the mixture boiled and evaporated to dryness, the residue should not be completely soluble in 50 c.c. of hot water slightly acidified with hydrochloric acid.

The arsenic content of neosalvarsan may be estimated according to the method described in Reports of the Chemical Laboratory of the American Medical Association, vol. III, p. 97.

Actions and Uses.—Since neosalvarsan is merely a soluble compound of salvarsan, its actions and uses are the same as salvarsan, which see.

Dosage.—Neosalvarsan is said to be tolerated better than salvarsan, and consequently may be employed in larger doses. The average single dose for men is 0.75 gm. (12 grains) with 0.6 gm. (9.5 grains) and 0.9 gm. (14 grains) as the minimum and maximum doses. For women, 0.6 gm. (9.5 grains) as the average, 0.45 gm. (7 grains) and 0.75 gm. (12 grains) as minimum and maximum. Children may be given from 0.15 gm. (2 grains) to 0.3 gm. (5 grains). 1.5 gm. (22 grains) for men and 1.2 gm. (19 grains) for women should be regarded as a maximum dose.

Neosalvarsan may be administered by intravenous or intramuscular injection, the former being considered decidedly preferable, but, owing to the danger of infiltrations, it must not be administered subcutaneously. For intravenous injections 25 c.c. of freshly distilled water should be used for each 0.15 gm. of neosalvarsan. For the intramuscular injection 3 c.c. (45 minims) of freshly distilled water should be used for each 0.15 gm. (2½ grains) of neosalvarsan, this yielding an approximately isotonic solution.

Solutions should be freshly prepared, from freshly distilled, sterile cold water, or, if this be unavailable, with well boiled and cooled tap water.

Solutions of neosalvarsan must be injected immediately after their preparation. Neosalvarsan solution must not be warmed and the temperature of the injection fluid should not be above 20 to 22 C. (68 to 71.6 F.).

Manufactured by Farbwerke vorm. Meister, Lucius and Brueuning, Hoechst, a.M., Germany; (Victor Koechl & Co., New York). German patent No. 245,750. U. S. patent applied for. U. S. trademark.

Neosalvarsan, Dose 1.—Each sealed tube contains neosalvarsan, 0.15 Gm. (2 ⅓ grains).

Neosalvarsan, Dose 2.—Each sealed tube contains neosalvarsan, 0.3 Gm. (4 ⅔ grains).

Neosalvarsan, Dose 3.—Each sealed tube contains neosalvarsan, 0.45 Gm. (6 ⅞ grains).

Neosalvarsan, Dose 4.—Each sealed tube contains neosalvarsan, 0.60 Gm. (9 ⅓ grains).

Neosalvarsan, Dose 5.—Each sealed tube contains neosalvarsan, 0.75 Gm. (11 ⅓ grains).

Neosalvarsan, Dose 6.—Each sealed tube contains neosalvarsan, 0.9 Gm. (13 ⅘ grains).

SALOQUININE (See N. N. R. 1912, p. 195).

Manufactured by the Vereinigte Chaminfabriken, Zimmer & Co., Frankfurt a.M., Germany, (Merck & Co., New York).

ARTICLES ACCEPTED FOR N. N. R. APPENDIX

Kalle & Co., New York.

Menthol-Iodol.—A mixture of Iodol, 99 parts, and menthol, 1 part. Trademarked in Germany. No U. S. patent or trademark.