Clinical Notes, Suggestions, and New Instruments

WOUND DIPHTHERIA COMPLICATED BY RHEUMATIC FEVER

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March 19, 1917, E. B., boy, aged 5 years, of German descent, was brought to my office with the history of a fall three weeks before, resulting in a wound of the ulnar side of the palm just below the wrist. This was said to have "healed up" and "opened again" one week before he was seen. He was pale and looked ill, but there was no elevation of temperature. The nose and throat did not show any acute lesion. Inspection of the hand revealed a wound $1\frac{1}{2}$ inches long and from one-eighth to one-half inch wide, covered by a firm gray membrane. A culture revealed diphtheria bacilli. March 20, I called at his home and injected 5,000 units of antitoxin. The membrane disappeared from the wound in two days. March 27, the temperature rose to 103.6 F., and there were pains in both knees and the right ankle. The throat was reddened and next day the tonsils were covered with a loose exudate. A diagnosis of rheumatic fever was made. The temperature reached normal, March 31, when the patient was last seen. He still had a slight tenderness on pressure over the insertion of the left hamstrings.

On the day antitoxin was injected, a brother, C. B., aged 10 years, was found with a temperature of 103.5 F., evidence of inflammation of the mucous membrane of the nose, many punctate spots on the tonsils, and enlarged and very painful glands in the neck. Five thousand units of antitoxin were injected. A culture taken from the tonsils proved negative, but a diagnosis of diphtheria seemed safe. Recovery was prompt.

Another brother, G. B., aged 8 years, had excoriations at the edges of the nostrils, and evidence of inflammation of the mucous membrane of the nose. The mother stated his nose had been like that for a month. He received 1,000 units of antitoxin. The next day the temperature was 100.5 F. A culture was taken from the nose, and diphtheria bacilli found. Next day the temperature was normal and recovery good.

Two other boys were immunized.

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AN UNCOMMON FRACTURE OF THE PELVIS

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A man, aged 42, while walking in his sleep, Nov. 27, 1913, fell from the upper story of his dwelling, a distance of about 12 feet. It would appear that the fall was partly broken by the hands and that the main force of the impact was received on the left side of the chest and over the left trochanter major. These deductions are made from the external marks of violence, the patient not knowing anything of the circumstances. He did not awaken as a result of the fall, being still asleep when found.

On examination, no fractures were discovered. Palpation of the left leg, thigh and hip was negative. There was no shortening, eversion, inversion or other deformity. The patient, however, was unable to extend the leg on the thigh, and when this was passively done, a slight vibration (not a crepitation) was transmitted to the hand held over the thigh. This gave the impression as if the head of the bone were sliding out of the socket and returning with a jump, such as is experienced in contortionists with lax ligamentum teres and joint capsule. The patient felt this also but experienced practically no pain.

Roentgenoscopy revealed a fracture beginning just beneath the anterior inferior spine of the ilium and extending downward and inward on about the line of union between the ilium and ischium, passing through the acetabulum and continuing on through the body of the ischium, completely separating the os innominatum into two parts. There was con-

siderable separation of the fragments at the beginning of the fracture line. Another fracture was noted in the ischium, a serrated fracture line extending transversely through the ramus of the bone.

The cause of the fracture was the blow transmitted from the great trochanter through the neck to the head of the femur. The rule is for the neck to give way.

The patient was treated in a Bradford frame with a lateral splint extending from under the arm to beyond the sole of the foot, with a cross piece, buckle straps and swathe being used to retain it in place. The frame was supported on an ordinary bed with mattress removed. Two cross pieces of heavy timber were placed across the bed, one at the head and the other at the foot, to receive the frame. Two planks, placed on this, outside the frame, served as a convenience for attending to the patient's wants.

Passive movement was begun on the tenth day, and the patient was allowed up on the forty-second day.

There was no shortening of the limb, no pain on movement, and the patient has complete use of the leg, the anatomic and functional results being perfect.

One year after the accident the patient was able to spend the entire day wading through rice paddies, shooting snipe, without pain or abnormal fatigue.

SIMPLIFIED TECHNIC FOR LOCAL ANESTHESIA OF TONSILS

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Some textbooks in describing injection of the tonsils for local anesthesia show six or seven points at which we are told to inject. Others use a curved needle and inject just under the mucous membrane. Both of these methods cause an edema of the tissue, causing so much distortion that often it is hard to find the tonsil, and after operation there is bound to be more or less reaction from the introduction of so much fluid into the tissues. Again, our anesthesia is often poor and unsatisfactory.

The middle and posterior palatine nerves (branches of Meckel's ganglion) join with the tonsillar branches of the glossopharyngeal nerve to form a plexus around the tonsils (circulus tonsillaris).

With the exception of the mesial free surface, the tonsil is surrounded by a distinct fibrous capsule, and external to this capsule is found the pharyngeal aponeurosis, which is rather loosely associated with the capsule. External to this is the superior constrictor muscle of the pharynx.

The circulus tonsillaris forms around the capsule in the loose pharyngeal aponeurosis, and then sends small branches into the tonsil proper, both anterior and posterior pillars.

First it is necessary to diminish the pharyngeal reflexes, by either spraying or swabbing the oropharynx with a 10 per cent. solution of cocaine, the swabbing being a much safer method. Applications are made at two minute intervals, until the reflexes are under control and the patient does not gag easily. Two or three applications are usually sufficient, though some patients may need six or more. In nervous persons it is wise to give a hypodermic injection of one-fourth grain of morphin ten minutes before the patient comes to the operating room.

After the reflexes have been brought under control, the anesthetic fluid is injected. Novocain solution, 1 per cent., with 15 minims of epinephrin solution, 1:1,000, to one-half ounce of the novocain solution, is the most satisfactory anesthetic. Schleich's solution No. 1, with 15 minims of epinephrin solution works well. Instead of a small sharp needle or one of the hooked tonsil needles, a medium size, fairly blunt, short pointed, ordinary spinal puncture needle should be used. The needle is inserted through the center of the tonsil outward and backward, with the idea of placing the point of the needle as near as possible between the capsule and aponeurosis at its exact center, which procedure is easy. The needle is shoved through the nonresisting tonsil tissue until a slight resistance is felt, which is the fibrous capsule,

and then just a fraction farther. Now from 15 to 20 minims of the novocain solution are injected. The solution infiltrates all around the capsule, and there is no edema or swelling. After several minutes, the tonsil can be removed by any method desired, with perfect anesthesia and little hemorrhage.

It is remarkable how easy one may anesthetize the tonsil in this way, with a small quantity of solution and only one puncture. If the tonsil is large or long, it is best to make two punctures, one through the upper pole and one through the lower pole.

I have removed over thirty tonsils by this method of anesthesia, and have had excellent anesthesia in all.

The advantages are:

1. Excellent anesthesia.
2. Small amount of fluid injected into the tissues.
3. Lack of edema and disturbance of the tissues.
4. Lack of postoperative reaction.

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New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

W. A. PUCKNER, SECRETARY.

HAY FEVER POLLENIN SPRING-MULFORD.—A liquid obtained by extracting the proteins of the pollen of rye (*Secale cereale*), timothy (*Phleum pratense*), orchard grass (*Dactylis glomerata*), sweet vernal grass (*Anthoxanthum odoratum*), and red top grass (*Agrostis alba*), and standardizing the solution by estimating the amount of protein contained in it. Preserved with three cresols.

Actions and Uses.—See New and Nonofficial Remedies, 1917, p. 242, under general article on Pollen Extract.

Dosage.—See New and Nonofficial Remedies, 1917, p. 242, under general article on Pollen Extract. Each package of Hay Fever Pollenin Spring-Mulford bears an expiration date (four months from date of removal from laboratory).

Manufactured by the H. K. Mulford Company, Philadelphia. No U. S. patent or trademark.

Hay Fever Pollenin Spring-Mulford, Four Syringe Package.—The syringes contain respectively 0.0025 mg., 0.005 mg., 0.01 mg. and 0.02 mg. of pollen protein.

Hay Fever Pollenin Spring-Mulford, One Syringe Package.—Each syringe contains 0.02 mg. of pollen protein.

Equal parts of the pollen of rye (*Secale cereale*), timothy (*Phleum pratense*), orchard grass (*Dactylis glomerata*), sweet vernal grass (*Anthoxanthum odoratum*), and red top grass (*Agrostis alba*) after being dried are ground in a ball-mill to destroy the cell membrane. This is then extracted with physiological sodium chloride solution. The extract is precipitated with acetone. The precipitate is dried and finally extracted again with physiological sodium chloride solution. The soluble proteins being brought into solution, a nitrogen determination is made on this extract, and it is then standardized according to the protein (nitrogen) content.

HAY FEVER POLLENIN FALL-MULFORD.—A liquid obtained by extracting the proteins of the pollen of ragweed (*Ambrosia artemisiifolia*), golden rod (*Solidago*) and maize (*Zea Mays*), and standardizing the solution by estimating the amount of protein contained in it. Preserved with three cresols.

Action and Uses.—See New and Nonofficial Remedies, 1917, p. 242, under general article on Pollen Extract.

Dosage.—See New and Nonofficial Remedies, 1917, p. 242, under general article on Pollen Extract. Each package of Hay Fever Pollenin Fall-Mulford bears an expiration date (four months from date of removal from laboratory).

Manufactured by the H. K. Mulford Company, Philadelphia. No U. S. patent or trademark.

Hay Fever Pollenin Fall-Mulford, Four Syringe Package.—The syringes contain respectively 0.0025 mg., 0.005 mg., 0.01 mg. and 0.02 mg. of pollen protein.

Hay Fever Pollenin Fall-Mulford, One Syringe Package.—Each syringe contains 0.02 mg. of pollen protein.

A mixture of 90 parts of the pollen of ragweed, 5 parts of the pollen of various species of golden rod and 5 parts of the pollen of maize after being dried is ground in a ball-mill to destroy the cell membrane. It is then extracted with physiological sodium chloride solution. This extract is precipitated with acetone. The precipitate is dried and finally extracted again with physiological sodium chloride solution. The soluble proteins being brought into solution, a nitrogen determination is made on this extract, and it is then standardized according to the protein (nitrogen) content.

BORCHERDT'S MALT OLIVE.—A liquid stated to be composed of olive oil 20 per cent., glycerin 10 per cent. and Borchardt's Malt Extract Plain 70 per cent.

(Accepted for inclusion with the appendix to New and Nonofficial Remedies.)

Prepared by the Borchardt Malt Extract Co., Chicago.

CITRESIA.—Magnesium Acid Citrate.— $\text{MgH}_2\text{C}_6\text{H}_5\text{O}_7 \cdot 5\text{H}_2\text{O}$.—The hydrated acid magnesium salt of citric acid containing not less than 98 per cent. of $\text{MgH}_2\text{C}_6\text{H}_5\text{O}_7 \cdot 5\text{H}_2\text{O}$.

Actions and Uses.—Citresia has the laxative and purgative action of magnesium citrate.

Dosage.—As a laxative 25 Gm. (6 drachms); as a purgative 50 Gm. (1½ ounce). It may be administered by dissolving citresia 25 Gm. in syrup of citric acid 25 Cc. and water enough to make 150 Cc.

Manufactured by Horace North, New York. No U. S. patent or trademark.

Citresia is a white or faintly yellowish-white, crystalline, odorless powder having an acid taste.

Citresia is very soluble in water; insoluble in alcohol, ether or chloroform.

Five Gm. of citresia should dissolve without residue in 25 Cc. of water.

If to 10 Cc. of an aqueous solution of citresia (1 in 20) 1 Cc. of hydrochloric acid and 1 Cc. of sodium phosphate solution be added and the solution be made slightly alkaline with ammonia water, a white, crystalline precipitate should be produced.

If 10 Cc. of the aqueous solution of citresia (1 in 20) be neutralized with potassium hydroxide solution and 1 Cc. of calcium chloride solution added, no precipitate should be produced. After boiling the mixture for one or two minutes, a white, crystalline precipitate should appear.

If 5 Gm. of citresia be shaken with 25 Cc. of alcohol, the mixture filtered, the filtrate evaporated, the residue, if any, dried for one hour at 100 C., and weighed, the weight found should not amount to more than 0.05 Gm. (limit of citric acid, and some other impurities).

If from 0.5 Gm. to 0.8 Gm. of citresia be weighed, and the salt dried to constant weight at 75 C., the loss should not amount to more than 30 per cent. (absence of an undue amount of water).

If from 0.5 Gm. to 0.8 Gm. of citresia be weighed, the salt ignited and the residue weighed, the ash should amount to not less than 13 per cent.

If from 2 Gm. to 3 Gm. of citresia be weighed, the salt dissolved in 25 Cc. of water and the cold solution titrated with normal potassium hydroxide, using phenolphthalein as indicator, the alkali required should correspond to at least 98 per cent. of hydrated magnesium acid citrate.

1 Cc. of normal potassium hydroxide volumetric solution = 0.30445 Gm. of $\text{MgH}_2\text{C}_6\text{H}_5\text{O}_7 \cdot 5\text{H}_2\text{O}$.

If from 0.5 Gm. to 0.8 Gm. of citresia be weighed, the salt dissolved in 50 Cc. of 1 per cent. hydrochloric acid, a slight excess each of sodium phosphate solution and ammonia water added, the mixture allowed to stand 15 hours, the precipitate collected in a weighed Gooch crucible, washed, dried, heated and weighed in the usual way, the weight of magnesium pyrophosphate should correspond to not less than 98 per cent. of hydrated magnesium acid citrate ($\text{MgH}_2\text{C}_6\text{H}_5\text{O}_7 \cdot 5\text{H}_2\text{O}$).

$\text{Mg}_2\text{P}_2\text{O}_7 \times 2.734 = \text{MgH}_2\text{C}_6\text{H}_5\text{O}_7 \cdot 5\text{H}_2\text{O}$.

ANTIRABIC VACCINE (See N. N. R., 1917, p. 291).

Eli Lilly and Company, Indianapolis, Ind.

Pasteur Antirabic Preventive Treatment (Harris Modification).—Brains and spinal cords of rabbits, dead of fixed virus rabies infection, are ground to a paste which is frozen by the addition of carbon dioxide snow. The mass is pulverized and rapidly dried in vacuo. The resulting dry powder is standardized by the method devised by Dr. Harris, and stored in vacuo in the cold. One dose is given daily over a period of 14 days, the early doses increasing in unitage up to a maximum. Supplied in emulsion in syringe ready for use. The first three doses are sent out from distributing stations, the remaining ones from the home office.

Test for Picric Acid in the Urine.—F. Arena acidifies the suspected urine with a few drops of concentrated sulphuric acid and then places in the urine some wool cleared of fat. Any picric acid present fastens on the wool in the course of a few hours. The wool is then treated with a few cubic centimeters of hot concentrated ammonia. To this are then added 1 or 2 c.c. of a 2 per cent. solution of ferric citrate, not allowing the two fluids to mix. With positive findings, at the zone of contact a bright red ring forms, due to formation of picraminic acid.—*Riforma Medica*, p. 441.