

A very pertinent reference to this fracture is the following:¹

Great care is necessary in the treatment of this fracture, lest the upper end of the lower fragment retains the vicious position into which it is forced at the time of the accident, and so is ultimately soldered to the inner margin of the radius. To prevent this occurrence the hand should be permanently inclined toward the thumb by two splints, the extremities of which are rendered somewhat sloping from behind forward, in a direction opposite to that of the splints sometimes employed in the management of fracture of the corresponding end of the radius.

The principle, therefore, is an old one, but I think that it merits reconsideration, and that the single splint applied as described exactly meets the indications. It should be added that the leather side-pieces with which these splints are usually equipped were absent, since I was not convinced that they serve any practical purpose. Anyone may satisfy himself of the efficiency of this method by manipulating a splint in the manner indicated.

241 South Thirteenth Street.

ARTIFICIAL INCREASE OF EOSINOPHILE CELLS IN DEMENTIA PRÆCOX

R. E. WELLS, M.D.

Assistant Physician, Northern Michigan Asylum
TRAVERSE CITY, MICH.

Several months ago in an article² by Dr. H. D. Purdom and myself, we mentioned the increase in eosinophile cells in the blood, which is often seen in dementia præcox, and also mentioned two cases in which we succeeded in raising the percentage of eosinophiles by administration of thyroidectin.

Since that time I have been testing the effect of thyroidectin on the blood of cases of dementia præcox. The original idea for administering the drug was based on the theory that the disease was possibly caused by perverted secretion of the thyroid gland. Recently several cases of catatonia have been reported as having been cured or improved by partial extirpation of the thyroid gland. It was for this reason that it was thought that thyroidectin might exercise the same influence on dementia præcox. No improvement in any of the cases was noted, but it was observed that certain changes in the blood took place in most of the cases, which were characteristic.

The blood of ten cases of dementia præcox was examined at intervals of a few days during the administration of the drug. Five cases of catatonia and five cases of hebephrenia were taken at random. One case of epileptic insanity, one case of manic depressive insanity, one case of general paresis and a normal individual were also tested.

The following tables show the blood changes in the cases of dementia præcox:

CASE 1			
	Leucocytes.	Eosin. Per cent.	Neut. Per cent.
Average count	10,660	15.4	61.7
May 5, after 40 grs. thyroidectin	13,706	20.0	57.6
May 7, 5 grs. t.i.d.	14,594	18.5	53.9
May 12, 5 grs. t.i.d.	14,340	25.1	45.6
May 15, 10 grs. t.i.d.	14,088	28.1	40.0
May 17, 10 grs. t.i.d.	not obtainable	27.8	49.6
May 20, 10 grs. t.i.d.	not obtainable	32.3	40.3
May 23, drug discontinued	8,376	22.0	45.9
June 4, drug discontinued	not obtainable	13.4	53.5
June 15, drug discontinued	not obtainable	7.8	51.9

CASE 2

	Leucocytes.	Eosin. Per cent.	Neut. Per cent.
Average count	6,592	6.0	61.4
May 7, after 35 grs. thyroidectin	13,452	10.8	53.1
May 9, 15 grs. t.i.d.	11,042	6.3	50.8
May 13, 15 grs. t.i.d.	8,884	14.2	49.6
May 26, drug discontinued	5,692	15.4	40.3
May 30, drug discontinued	8,756	9.6	62.5
June 1, drug discontinued	7,482	8.3	37.4
June 5, drug discontinued	6,996	12.4	48.2
June 15, drug discontinued	8,122	6.1	47.0
June 22, drug discontinued	9,010	5.7	53.4

CASE 3

	Leucocytes.	Eosin. Per cent.	Neut. Per cent.
Average count	13,326	5.8	61.3
May 25, after 35 grs. thyroidectin	14,594	10.4	51.9
May 28, 5 grs. t.i.d.	13,530	11.1	48.9
May 30, 5 grs. t.i.d.	14,340	12.3	45.3
June 1, 5 grs. t.i.d.	13,706	11.2	51.4
June 4, 10 grs. t.i.d.	12,944	9.0	50.3
June 6, 10 grs. t.i.d.	not obtainable	9.2	47.0

CASE 4

	Leucocytes.	Eosin. Per cent.	Neut. Per cent.
Average count	11,548	3.4	71.7
June 2, after 30 grs. thyroidectin	8,248	5.1	56.0
June 4, 10 grs. t.i.d.	9,264	5.1	56.1
June 6, 10 grs. t.i.d.	8,248	3.4	62.7

CASE 5

	Leucocytes.	Eosin. Per cent.	Neut. Per cent.
Average count	11,042	0.7	78.4
June 1, after 30 grs. thyroidectin	9,518	4.6	62.2
June 4, 5 grs. t.i.d.	10,914	7.6	60.0
June 8, 5 grs. t.i.d.	11,802	5.0	67.8

CASE 6

	Leucocytes.	Eosin. Per cent.	Neut. Per cent.
Average count	13,072	3.5	70.5
June 10, after 20 grs. thyroidectin	8,122	1.2	73.0
June 12, 5 grs. t.i.d.	10,534	1.1	70.0
June 14, 5 grs. t.i.d.	8,884	3.0	72.1

CASE 7

	Leucocytes.	Eosin. Per cent.	Neut. Per cent.
Average count	11,422	6.0	45.8
June 17, after 25 grs. thyroidectin	8,755	7.1	45.5
June 19, 5 grs. t.i.d.	8,884	10.5	43.4
June 21, 5 grs. t.i.d.	9,392	8.4	48.0

CASE 8

	Leucocytes.	Eosin. Per cent.	Neut. Per cent.
Average count	18,404	1.3	57.1
June 18, after 30 grs. thyroidectin	13,960	2.6	56.1
June 20, 10 grs. t.i.d.	13,580	3.1	55.1
June 22, 10 grs. t.i.d.	14,722	3.2	55.0

CASE 9

	Leucocytes.	Eosin. Per cent.	Neut. Per cent.
Average count	9,392	1.2	67.8
Oct. 12, after 15 grs. thyroidectin	10,660	1.7	70.2
Oct. 13, 15 grs. t.i.d.	9,898	1.4	76.0
Oct. 14, 15 grs. t.i.d.	10,888	2.4	63.6

CASE 10

	Leucocytes.	Eosin. Per cent.	Neut. Per cent.
Average count	8,168	2.0	64.8
Nov. 28, after 35 grs. thyroidectin	5,552	4.2	59.6
Dec. 1, 15 grs. t.i.d.	6,340	3.0	61.2
Dec. 3, 15 grs. t.i.d.	6,214	5.4	49.0

In making the differential counts in these cases, at least 500 white blood cells were counted and often a thousand. They were all counted by one person. Wright's blood stain was used.

The most notable variations in the blood are the increase in the eosinophile cells in 90 per cent. of the cases and the decrease in the neutrophiles, the latter, as a rule, showing a greater decrease in proportion than the rise in eosinophiles. Case 6 is the only one in the series in which there was no rise in the eosinophiles. It

1. Gross: System of Surgery, Edition 6, 1, 965.
2. THE JOURNAL A. M. A., July 4, 1908.

is also noticeable that there was very little variation in the neutrophiles in this case. This patient is one who has suffered from hebephrenia for many years, but who does not show many active symptoms and lived outside of the institution for several years before admission. The rise in eosinophiles is apparently greater in those having originally a high eosinophile percentage, but most of those having a lower percentage originally show practically a doubling of the eosinophiles. The total number of leucocytes showed no constant variation, being increased in some cases and diminished in others.

It is noteworthy that the blood findings in the normal individual remained fairly constant:

	Leucocytes.	Eosin. Per cent.	Neut. Per cent.
Average count	6,720	4.7	60.3
May 17, after 30 grs. thyroidectin	6,664	4.4	62.2
May 19, 5 grs. t.i.d.	5,692	5.6	60.0
May 22, 5 grs. t.i.d.	6,848	4.0	60.0

The other cases of insanity tested showed no rise in the eosinophiles and no notable changes in the neutrophile count nor in the total leucocyte count. From the small number of cases examined, it cannot be claimed that these changes in the blood are specific for dementia præcox, but from the experiments with other forms of alienation and with a normal individual it would seem that there must be some degree of specificity or an unstable condition of the blood in dementia præcox which produces these results. If this test proves to be specific, it could be used as a diagnostic procedure in cases which are not clear.

The etiology of dementia præcox is still obscure. Possibly many factors contribute to its causation. From the experiments with thyroidectin it might be theorized that the disease is due to perverted function of the thyroid gland, for we know that at certain periods in the course of hebephrenia and catatonia the eosinophile cells are normally increased. If, therefore, thyroidectin produces the same effects on the blood that is observed normally in many cases of hebephrenia and catatonia, it would seem rational to suppose that perverted thyroid secretion is one factor in the etiology of dementia præcox.

New and Nonofficial Remedies

SINCE THE PUBLICATION OF THE BOOK "NEW AND NONOFFICIAL REMEDIES, 1909," THE FOLLOWING 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 TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK ARE ASKED FOR.

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.

(Continued from page 132)

SERUMS AND VIRUSES*

SERUM ANTIDIPHThERICUM AND ANTIDIPHThERIC GLOBULINS.—Antidiphtheric Serum or Diphtheria Antitoxin is an official preparation; for description see the U. S. Pharmacopeia, 8th decennial revision. The diphtheria antitoxin sold in interstate commerce in the United States and in the

* Editor's Note: In this issue appears a symposium on serums, vaccines, tuberculins, etc., which was presented in the Section on Pharmacology and Therapeutics at Atlantic City, 1909.

District of Columbia is required to conform to the standard established by the United States Public Health and Marine-Hospital Service. Some manufacturers mix serums of different strengths so as to secure a preparation containing approximately a definite number of units per c.c. Most of the firms also market a concentrated diphtheria antitoxin or antidiphtheric globulins prepared by the removal, by precipitation with neutral salts, of most of the constituents of the serum except that fraction of the globulins bearing antitoxic potency.

Inasmuch as the ordinary (not concentrated) serum antidiphthericum is contained in the U. S. P., it is desirable that the term "U. S. P." be used in connection with this product (and only with this one) in order to avoid confusion with the globulin preparations.

The French, German and Spanish Pharmacopeias recognize both liquid and desiccated preparations.

H. M. Alexander & Co., Marietta, Pa.

Diphtheria Antitoxin. Only the antidiphtheric globulin is marketed; the antidiphtheric serum is concentrated and refined in accordance with recent improvements of the Gibson method. Marketed in syringes containing from 500 to 5,000 units.

Burroughs, Wellcome & Co., London, England, and New York City.

Diphtheria Antitoxin Serum. Serums of different values from a number of horses are mixed to yield a definite value (from 450 to 500 units per Cc.), also a high potency serum, 1 Cc. of which contains 1,000 units. Trikresol (0.3 per cent.) is added as a preservative. Marketed in hermetically-sealed vials containing 1,000 to 4,000 (Ehrlich-Behring) units; also a high potency serum containing from 1,000 to 10,000 units.

Cutter Laboratory, Berkeley, Cal.

Diphtheria Antitoxin. Marketed in syringes containing 4,000 units; also in bulbs. Diphtheria antitoxin globulin marketed in syringes containing 1,000 units.

Farbwerke, vorm. Meister, Lucius and Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York.)

Diphtheria Antitoxin "Behring;" imported into the United States only upon special order.

Department of Health, City of New York.

Refined and Concentrated Diphtheria Antitoxin (Globulin). The preparation is a solution of the globulins of the blood which are soluble in a saturated sodium chloride solution; this contains most of the antitoxin. Preserved with chloroform. Marketed in syringes containing from 2,000 to 5,000 units, each Cc. containing 500 to 1,500 units. Also in vials.

Wm. R. Hubbert, Detroit, Mich.

Diphtheric Antitoxin. Marketed only in bulk (usually from 1 to 10 liters).

Lederle Antitoxin Laboratories, New York City. (Schieffelin & Co., New York.)

Diphtheria Antitoxin. Only antidiphtheric globulin is sold; this is marketed in syringes containing from 500 to 10,000 units each; also in vials containing from 1,000 to 5,000 units each. The latter are prepared more particularly for the use of Boards of Health.

Memorial Institute for Infectious Diseases, Chicago.

Antidiphtheric Serum. Most of the antitoxin prepared is concentrated. Marketed in packages of from 1,000 to 5,000 units each, both in syringes ready for use and in bottles.

H. K. Mulford Co., Philadelphia.

Diphtheria Antitoxin, Concentrated (globulin). Prepared from serum antidiphthericum by the removal, by precipitation at 33 1/4 per cent. saturation with ammonium sulphate, of the serum albumins and globulins. The product consists essentially of a soluble serum globulin freed from inorganic salts by dialysis and redissolved in physiological salt solution. Preserved with not more than 1/4 per cent. trikresol or not more than 1/10 to 1 per cent. chloroform. Marketed in syringes containing from 1,000 to 5,000 units.

National Vaccine and Antitoxin Institute, Washington, D. C.

Diphtheria Antitoxin, Concentrated; prepared according to Gibson's method. Preserved with chloroform. Marketed in syringes containing from 500 to 6,000 units.

Parke, Davis & Co., Detroit, Mich.

Antidiphtheric Serum, U. S. P.; preserved with 0.4 per cent. trikresol; marketed in piston syringe containers of from 500 to 5,000 units each.

Antidiphtheric Globulins. Marketed as above.

Antidiphtheric Globulins (dry). Marketed in packages of 3,000 units each. The dry powder is readily soluble in water and will keep indefinitely.

Frederick Stearns & Co., Detroit, Mich.

Diphtheric Antitoxin, U. S. P. Preserved with 0.4 per cent. trikresol. Marketed in syringe containers holding from 1,000 to 4,000 units.

Concentrated Diphtheric Antitoxin. Prepared by the Gibson process; preserved with chloroform (2.4 minims per fluid ounce). Marketed as above; also in syringes containing 5,000 units.