The Boston Medical and Surgical Journal

Table of Contents

February 4, 1915

ORIGINAL ARTICLES.

A STUDY OF CHILDREN WITH POSITIVE SKIN TUBERCULIN REACTIONS. <i>By Orville F. Rogers, Jr., M.D., Boston.</i>	161
TWO CASES OF RUPTURE OF INTESTINE. <i>By Lincoln Davis, M.D., Boston.</i>	163
URINARY ACIDITY AND BETA-OXYBUTYRIC ACID DETERMINATIONS IN RECURRENT VOMITING. <i>By Willard S. Parker, M.D., Boston.</i>	164
THE SIGNIFICANCE OF X-RAY EXAMINATION FOLLOWING OPERATION FOR CONGENITAL PYLORIC TUMOR. <i>By Charles L. Scudler, M.D., Boston.</i>	166
SOME STUDIES IN FAT INDIGESTION. <i>By Charles Hunter Dunn, M.D., Boston.</i>	167
ACUTE AND CHRONIC EMPYEMA. <i>By Wyman Whittemore, M.D., Boston.</i>	168

CLINICAL DEPARTMENT.

REPORT OF A CASE OF CONGENITAL MULTIPLE CYSTIC DISEASE OF THE KIDNEYS IN WHICH ONE KIDNEY WAS REMOVED. <i>By Francis S. Watson, M.D., Boston.</i>	169
---	-----

NEW INSTRUMENT.

A CHEAP ELECTRIC HEATER. <i>By Edward von Adelung, M.D., Oakland, Cal.</i>	171
--	-----

MEDICAL PROGRESS.

THE BACTERIOLOGY OF THE GASTRO-INTESTINAL CANAL IN INFANCY. A SUMMARY. <i>By John Lovett Morse, M.D., and Fritz B. Talbot, M.D., Boston.</i>	171
--	-----

SOCIETY REPORTS.

CLINICAL CONFERENCE. NEUROLOGICAL INSTITUTE, FIRST DIVISION, NEW YORK. MEETING OF NOV. 12, 1914.	175
--	-----

THE COLLEGE OF PHYSICIANS OF PHILADELPHIA. MEETING OF NOV. 4, 1914.	178
NEW ENGLAND PEDIATRIC SOCIETY. MEETING OF DEC. 4, 1914.	180

BOOK REVIEWS.

Therapeutics of Dry Hot Air. <i>By Clarence E. Skinner, M.D.</i>	182
Modern Medicine. Its Theory and Practice. <i>By Sir Wm. Osler, M.D., and Thomas McCrae, M.D.</i>	182
Diseases of the Rectum and Anus. <i>By P. Lockhart-Mummery.</i>	183
The Backward Baby. <i>By Herman B. Sheffield, M.D.</i>	183
A Mind Remedy. <i>By John G. Ryerson, M.D.</i>	183
A Treatise on Diseases of the Rectum and Anus. <i>By A. B. Cooke, M.D.</i>	184
The Tonsils—Faucial, Lingual and Pharyngeal. <i>By Harry A. Barnes, M.D.</i>	184

EDITORIALS.

FEDERAL OR LOCAL ADMINISTRATION OF MARITIME QUARANTINE.	185
A CAREER OF PROFESSIONAL AND PUBLIC SERVICE.	187
A HOSPITAL SHIP FOR DEEP SEA FISHERIES.	188
THE NURSING QUESTION.	189
CONGENITAL PYLORIC TUMOR.	190
MEDICAL NOTES.	191
CURRENT LITERATURE.	193

MISCELLANY.

REGULATIONS OF STATE DEPARTMENT OF HEALTH.	197
THE AMBULANCE CONSTRUCTION COMMISSION.	198
INSANITY IN MASSACHUSETTS.	198
EXAMINATION OF CANDIDATES FOR ASSISTANT SURGEON.	199
BELGIAN PHYSICIANS' RELIEF FUND.	199
NOTICES, APPOINTMENTS, RESIGNATIONS, RECENT DEATHS.	200

Original Articles.

A STUDY OF CHILDREN WITH POSITIVE SKIN TUBERCULIN REACTIONS.*

BY ORVILLE F. ROGERS, JR., M.D., BOSTON.

[From the Children's Medical Department, Massachusetts General Hospital.]

THIS study was made at the suggestion of Dr. Fritz B. Talbot, from the records of the Children's ward of the Massachusetts General Hospital, starting with the establishment of that ward on July 1, 1910, and running up to July 1, 1913. Therefore the results here reported deal with children who have been out of the hospital at least one year and not over four years. The average of those heard from was two years, four months.

Those children are included on whom a Von Pirquet (skin tuberculin) reaction was done in the usual manner, with positive results. There were 69 of these in the three years. A number of positive cases were discovered in doing routine skin tuberculin tests, where there was no reason to suspect tuberculosis. These are included in this report, while obvious tuberculosis, in which the skin test was negative, is excluded.

The knowledge of the present condition of these children was gathered from various sources in August, 1914. Some came into the hospital in response to letters, others wrote, and the outpatient records were also used. In all we gained sufficient evidence about 42 children to warrant including them in the report. In addition to this we have eight who died in the hospital—a total of 50 out of 69 whose fate is known with more or less certainty.

* Read at a meeting of the New England Pediatric Society held December 4, 1914.

The table arranged according to age shows that on the whole the younger the patient, the graver the prognostic import of the positive skin reaction. In the first two years of life 11 out of the 17 of whom we know anything, or 65%, are dead. These figures could easily be made to read 11 out of 15, as the two children under one year recorded as alive, might have been left out on the grounds of too fragmentary a knowledge of their after-careers. Neither of these patients apparently had tuberculosis during his hospital stay, but one of them showed signs in his lungs a few months afterwards—since when he has been heard from only indirectly, but is probably alive.

Of that same group of 17, only four—or 23%—have no evidence of active tuberculosis, and only three are really well—a per cent. of 18.

The corresponding figures for children over two years are: known about, 33; dead, 7—21%; alive with no signs of active tuberculosis—21, or 64%; and alive with no illness whatsoever 10, or 30%—almost three times as favorable an outlook.

The second table shows the 69 cases arranged according to diagnosis. In the lowest row of this table are collected the statistics of 24 of the patients—their diseases being non-tubercular, with two exceptions, and none of them having tuberculosis at present as far as known. The two tubercular patients had solitary tubercle(?) and tuberculosis of the right elbow respectively, but nothing has been heard from either of them since discharge.

The most frequent of the tubercular diseases were tubercular peritonitis and pleurisy. Of the five peritonitis cases heard from three had died, while two others are perfectly well. It is interesting to note that these patients either died

TABLE I.—AGE DISTRIBUTION OF POSITIVE CASES.

Age.	Total Positive Reactions.	Total Known About.	Total Alive.	% Alive.	Alive and Free from Tuberculosis.	% Free from Tuberculosis.	Alive with Active Tuberculosis.	Total Dead.	% Dead.	Died of Non-Tubercular Illness.	Died of Tuberculosis.	Died of Unknown Cause.
Under 1 year.....	8	7	2	29	1	14	1	5	71	1	4	0
1 to 2 years.....	10	10	4	40	3	30	1	6	60	1	4	1
2 to 3 ".....	9	5	4	80	3	60	1	1	20	0	1	0
3 to 4 ".....	9	4	3	75	1	25	2	1	25	0	1	0
4 to 5 ".....	7	5	3	60	3	60	0	2	40	1	1	0
5 to 6 ".....	9	8	6	75	6	75	0	2	25	0	2	0
6 to 7 ".....	4	3	3	100	3	100	0	0	0	0	0	0
7 to 8 ".....	2	0	—	—	—	—	—	—	—	—	—	—
8 to 9 ".....	5	4	4	100	2	50	2	0	0	0	0	0
9 to 10 ".....	3	1	1	100	1	100	0	0	0	0	0	0
Over 10 ".....	3	3	2	67	1	33	1	1	33	1	0	0
Totals.....	69	50	32	64%	24	48%	8	18	36%	4	13	1

of tuberculosis quite promptly or else recovered entirely so far as we know at present. Age apparently did not dictate the outcome, for the two types averaged about the same.

The children who had pleurisy are all in good health if the five who reported are any criterion. The average age of these children is four years.

The cases of miliary tuberculosis and tubercular meningitis perhaps should be classed together but the meningitis cases have been kept separate, as miliary tuberculosis did not appear in the discharge diagnosis. The course of these cases was naturally very unfavorable with the exception of one child who will be alluded to later. The average age of these patients was younger than any other group—two years, two months. It is of interest that two other cases of tubercular meningitis, proven by postmortem, gave negative skin reactions.

The cases of bone tuberculosis of which we have word are not doing well. Both the children with Pott's disease are reported as doing

very poorly, and the little girl with periostitis still has new sinuses forming at intervals.

We have heard from only two of the three patients who had pulmonary tuberculosis, and of these one died of infantile paralysis, and the other still has tuberculosis of the cervical glands—though the lungs appear quiescent.

Glandular tuberculosis was very common, but as it was almost always associated with a more serious disease, which masked it, we can get no clear picture of its effects. One of these patients has since developed pulmonary tuberculosis, and is now in a sanatorium.

The diagnosis of "tuberculosis with otitis media" was made on a little girl of seven months, who gave a strongly positive skin reaction, but in whom the most careful examination failed to locate any focus. She died at Tewksbury one month after discharge from the Massachusetts General Hospital, and the diagnosis sent us from there was marasmus. Therefore she has been

TABLE II.—DISTRIBUTION ACCORDING TO DIAGNOSIS.

Diseases.	Total Positive Reactions.	Total Known About.	Total Number Alive.	% Alive.	Number Free from Tuberculosis.	Number with Active Tuberculosis.	Total Number Dead.	% Dead.	Died of Tuberculosis.	Died of Non-Tubercular Illness.	Died of Unknown Cause.
Miliary tuberculosis.....	6	6	1	17	1	0	5	83	5	0	0
Tubercular meningitis.....	3	3	0	0	0	0	3	100	3	0	0
Phthisis.....	3	2	1	50	0	1	1	50	0	1	0
Tubercular broncho-pneumonia.....	1	1	0	0	0	0	1	100	1	0	0
Pleurisy.....	8	5	5	100	5	0	0	0	0	0	0
Tubercular peritonitis.....	8	5	2	40	2	0	3	60	3	0	0
Cervical adenitis.....	2	1	1	100	0	1	0	0	0	0	0
Bronchial adenitis.....	1	1	1	100	0	1	0	0	0	0	0
Pott's disease.....	2	2	2	100	0	2	0	0	0	0	0
Tubercular periostitis.....	1	1	1	100	0	1	0	0	0	0	0
Tuberculosis and otitis media.....	1	1	0	0	0	0	1	100	0	1	0
Lobar pneumonia.....	8	7	6	86	5	1	1	14	1	0	0
Chronic diarrhea.....	1	1	1	100	0	1	0	0	0	0	0
24 patients with various diseases, no one of whom now has tuberculosis so far as known.....	24	14	11	79	11	0	3	21	0	2	1
Totals.....	69	50	32	64	24	8	18	36	13	4	1

included in the non-tubercular group, thought it is hard to rule out a generalized tuberculosis.

In relation to the question whether children with positive skin tuberculins are predisposed to non-tubercular diseases, it was interesting to find that not one of the 38 patients who had signs of active tuberculosis in the hospital is at present suffering from any non-tubercular affection.

Of the 31 patients who in the hospital showed no signs of tuberculosis save for the positive skin reaction, one has since died of tubercular peritonitis and two more now have signs of activity in the lungs—10%. Many of these have chronic non-tubercular diseases, such as endocarditis, pyelitis, bronchiectasis.

In the group that we know something about there were several interesting cases, about one of which a few words may be said.

He was a boy of four on whom a diagnosis of miliary tuberculosis was made. The history was of anorexia, apathy, and continued fever "for some time." He had enlarged cervical glands, signs of consolidation at both apices, with râles, fluid wave in abdomen, an enlarged liver, palpable spleen, and active reflexes, with a Babinski. In 12,000 white cells he had 54% lymphocytes. No tubercle bacilli in his sputum.

In the course of three weeks the fluid wave disappeared, the other signs remaining the same. He ran a continuous fever, pulse constantly tended upward, and lost weight.

After discharge, according to his mother's story, he remained the same for two to three months and was then sent back to the Cape Verde Islands, where his people came from. There he began at once to gain and now, after three and one-half years, the mother says that he is very well and strong.

While this is only a single case it points to the climatic conditions as being an important factor in this boy's recovery.

In drawing conclusions as to the chances of life for a child who reacts to the Von Pirquet test, we must consider what the mortality is in the average child.

The average age of these children, as it was calculated by adding their ages together and dividing by the number of children, is four years, four months. The average length of time since leaving the hospital was two years, four months. Insurance tables show that of 10,000 children aged four years, four months, 430 would be dead at the end of two and one-third years, a percentage of 4.3.

While the numbers involved in this tabulation are very small the difference between 36% and 4% could hardly be pure chance.

It may be argued that those patients who had an acute form of tuberculosis and died in the Massachusetts General, or were taken home a few days before death, should not be counted in making up our minds as to the probable prognosis of a positive reaction in those who survive. Therefore, eliminating the eight cases which were fatal in the hospital, and one of miliary

tuberculosis which died two or three days after discharge, the figures show that nine out of 41 died, a mortality of 22% instead of 36%, but this is again much higher than the ordinary mortality.

If we still further omit from this number, nine, the four who died of non-tubercular illnesses, and the one of unknown cause, we find that we have four out of 36 who died of tuberculosis at least several months after leaving the hospital—11%—almost three times the mortality of the normal.

SUMMARY.

Before the age of two a positive skin reaction seems to be an indication that the child's life is likely to be short.

The mortality among all children, up to the age of 10, who react to the Von Pirquet test is much higher than that of normal children.

The series is too small, and the time since the tests were made, too short, to permit us to draw any but the most general conclusions.

TWO CASES OF RUPTURE OF INTESTINE.*

BY LINCOLN DAVIS, M.D., BOSTON.

CASE 1. C. C. No. 196642, East Surgical. Seven years old. Schoolboy. Sent to the Accident Room of the Massachusetts General Hospital on July 19, 1914, at 11.05 A. M., by Dr. Alfred Davidson of Chelsea, with diagnosis of "Ruptured Viscus."

The following history was obtained: Previous health always good. Yesterday afternoon at five o'clock patient was running across a field and fell down, striking on a rock. His parents state that they think he fell about six feet. Immediately complained of pain in his stomach and has vomited many times since. Has passed apparently normal looking urine. Patient now has severe abdominal pain.

P. E. Well developed and nourished child, looks very sick. Lungs negative except for dullness at right base. Examined by Dr. W. H. Smith, who says lungs are not responsible for symptoms. Abdomen slightly distended, with marked spasm and tenderness everywhere. Percussion note tympanitic, with obliteration of liver dullness. No shifting dullness made out. On abdominal wall, over left upper rectus, is a contusion and abrasion, 1 inch in diameter. Temperature 100.2 by rectum. Pulse 148. Respiration 36.

Prepared for immediate operation.

Ether anesthesia. Iodine preparation. Five inch muscle-splitting incision carried down to peritoneum. Peritoneum opened with escape of much fluid and fecal material. Fluid baled out with gauze strips and gut explored. A perforation of the small intestine, reaching across the gut nearly to

* Read at a meeting of the New England Pediatric Society held December 4, 1914.