Original Articles.

MORTALITY OF HEREDITARY SYPHILIS.

BY ABNER POST, M.D., BOSTON.

SYPHILIS is declared by writers on the subject to be simply murderous in its hereditary manifestations.

The distinguished syphilographer, Fournier, gives the statistics of 500 syphilitic families with whose history he is acquainted, as follows: In 223 families no transmission of the disease to offspring has taken place, in 277 families such transmission has taken place.

In these 500 families, 1127 pregnancies have occurred, 600 children are reported living and well; 527, or 46%, of the pregnancies have resulted unfortunately, as follows:

Abortions and still births	230
Early deaths	245
Living and syphilitic	38
Mentally deficient	14
	527

There is a tendency to disregard syphilis in this country. It is supposed to be a disease of older countries and rare in this; it is thought to be confined to those who go to seek it and to have no interest for those whose lives are blameless. If one accepts the death returns of the country as final, one may well say that the fatalities from syphilis are negligible.

It is the good fortune of the Boston Dispensary to have in the Dermatological Clinic a large number of syphilitic children, who furnish the material for this paper,—which concerns itself chiefly with those victims of hereditary syphilis who have survived the perils of infancy. Most of those who are considered have passed the earlier period of second dentition. They range from five or six to eighteen or twenty years of age.

If one looks at the vital statistics of Massachusetts, where these children have been seen, syphilis will be found notoriously absent, hardly more important in numbers than leprosy or typhus.

But it must be remembered that no one dares to assign syphilis as a cause of death. It would probably cost a doctor his popularity and ruin his practice if he dared to append that cause of death with the same simplicity that he would write typhoid or pneumonia. One must look elsewhere than at the official death returns to know anything about the fatality of syphilis.

From the children with hereditary syphilis who appear at the Boston Dispensary Clinic, it is our custom to learn all that we can in regard not merely to the patient, but also in regard to the family. This information is obtained usually from the mother or relative who brings

the child. We have tried to learn the number of deaths in the family, with the alleged causes of death, and the condition of the survivors, and in regard to the patient, enough of the life history to know how far he or she falls short of the perfect child by reason of the syphilis.

It has not been possible to analyze all our material. It is only within a short time that our records have preserved material of this sort, and in regard to many families the records are of necessity quite vague. The mortality in 30 syphilitic families has been tabulated with the following results:

In these 30 families there have been 168 pregnancies; of these pregnancies there have been 53 still births and miscarriages, and 44 early deaths—a total of 97 lost, or 57%—71 remain alive.

57% of the pregnancies are dead.

38% of the children born alive are dead.

Out of the 168 pregnancies, of the 115 children brought living to the world, there remain alive 71; of these 71, 32 have been our patients, leaving only 39 presumably healthy. In the accompanying chart our patients are represented by a cross with a straight line beneath.

It is of interest and also of value to know what is the reason for this great mortality, or of what these children die.

Probably no other disease presents the same sad history as syphilis. No attempt is anywhere made, so far as I know, to classify the causes of stillbirth.

It has already been mentioned that syphilis appears infrequently in death returns as a cause of death. It becomes, then, a question of some importance to know how these deaths are reported, for certainly they must appear on the returns in some form. No one can for a moment believe that syphilis is the only cause of death in syphilitic families. Syphilitic children readily fall victims to intercurrent disease.

The attributed causes in 86 fatal cases in our syphilitic families, according to the mothers' accounts are as follows:

Congenital syphilis	2
Uncertain	4
Cholera infantum	25
Marasmus	27
Pneumonia	5
Hydrocephalus	5
Spinal meningitis	5
Scarlet fever	4
Chickenpox	2
Measles	2
Furunculosis	1
Diphtheria	1
Gastritis	1
Bronchitis	1
Accidental death	1

Of these causes, 25 cases of cholera infantum may, perhaps, be regarded as cases in which another disease is superimposed on a syphilitic basis, though it may be that the death could just as well have been attributed to syphilis as to cholera infantum.

Twenty-seven cases of marasmus is a striking number. Wasting is a symptom not at all un-

MORTALITY OF HEREDITARY SYPHILIS

Total Pregnancies Number of Families ↓	→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	1	●	-	●	●	●	●	+	+	+								
	2	+	●	●														
	3	●	-	-	+	+	+											
	4	-	+	-														
	5	●	●	●	+	+	+	+										
	6	-	+															
	7	●	●	+	●	+	●											
	8	-	-	-	-	-	+	+	+	-	●	=						
	9	●	-															
	10	-	●	-	-	+	●	●	●	●	●							
	11	+	●	●	+	-	+	+										
	12	●	+	+	+													
	13	●	●	-	●	+												
	14	●	-	+	+													
	15	●	+															
	16	+	+	●														
	17	●	●	●	●	●	-	-	-	+	-	●	+	●	●	+	-	+
	18	●	●	●	●	●	+											
	19	●	-	-	-	+	+	+	+	+								
	20	-	-	-	-	-	-	+	-	-								
	21	+																
	22	+	+	+	+													
	23	●	-	●	+													
	24	+	+															
	25	+	+	+														
	26	+	+	-	+													
	27	●	+	+														
	28	+	●	+	●	●	+	+	-									
	29	-	+															
	30	●	-	-	-	+	+	+	+	+	+							

Total Pregnancies in 30 Families — — — 168

Miscarriages and Still Births — — — 53

Early Deaths — — — — — 44

Living Children — — — — — 71

Patients — — — — — 38

Supposedly well — — — — — 38

71

KEY + Living Children

● Miscarriages and Still Births

- Early Deaths

⊕ The Patient

common in inherited syphilis and it cannot be far wrong to say that the symptom of marasmus is utilized to cloak the underlying disease.¹

In regard to the five cases of pneumonia, it must be said that a form of pneumonia is found in syphilitic children. It is syphilitic in character but it may very well be used as cause of death either from failure to recognize the underlying syphilis or purposely to hide it.

Hydrocephalus is caused by syphilis as well as by other diseases, and we are justified in believing that hydrocephalus occurring in syphilitic families is of syphilitic origin.

The diagnosis of spinal meningitis may be regarded with suspicion in this connection.

It is pretty certain that the returns for marasmus, pneumonia, hydrocephalus are falsified by reporting as such some deaths which might more properly be returned as syphilitic. How far the returns of cholera infantum are vitiated, if at all, nobody can tell. No one can for a moment believe that syphilis is the only cause of death in syphilitic families. It must be recognized that the vital resistance of these children is greatly reduced by their heredity and they readily fall victims to intercurrent disease.

Among the families introduced to our notice, but not registered in this table, are several where the disease has entered the family after the birth of one or more healthy, that is, non-syphilitic children. The contrast in mortality in these families between the earlier healthy and the later syphilitic children is very striking and seems to emphasize the fatalities due to syphilis. The earlier children show only normal death-rate, while the later show the abnormal death-rate of syphilis.

Occasionally it happens that the first child survives with signs of hereditary syphilis, while the following pregnancies end fatally. These are families in which the husband is syphilitic at the time of marriage, but not in a condition to inoculate his wife. The first child is the product of a syphilitic father and a healthy mother, and its chances of surviving are better than that of the children who immediately follow after the mother has passed through the first pregnancy and become herself syphilitic.

These 30 families were introduced to us by children who came as patients for their own bodily ills. So far we have considered the families from which they have sprung. The patients deserve our study for their own sake. They are the survivors of the numerous fatalities. Each one suffers from the inherited disease in such a way as to make him seek for medical aid, and no two are alike. Heredo-syphilitic children present an almost endless variety of symptoms, in an endless variety of groups.

¹ This note is taken from the Physicians' Pocket Reference to the International List of Causes of Death issued by the Census Bureau. "Marasmus." This term covers a multitude of worthless returns, many of which could be made definite and useful by giving the name of the diseases causing the marasmus or wasting. It has been dropped from the English Nomenclature since 1885. ("Marasmus, term no longer used.") The Bellevue Hospital Nomenclature also omits the term.

In the first place, the heredo-syphilitic child is unfinished. It is less in size and weight than normal. It is three or four years behind the normal children of its age. This incomplete, unfinished condition may be evident in the child as a whole or in any part of it. To the condition as a whole is applied the term infantilism.

The internal organs are abnormal in the same way. As these children come to us, they show their hereditary deficiencies in various degrees and also the stigmata of infantile disease. At the same time with this deficient development, there occur in some an increase in bony structure, the deposit of new bone in some circumscribed spot. Its forehead may be increased in size in various parts so that it has a projecting and abnormally large forehead. Some of the long bones have bosses or circumscribed swellings.

Of the children seen during the last year, by far the greater number were suffering from partial blindness, temporary in most of them. The number of cases of eye disease in this particular group was abnormally large because they had come primarily from an eye clinic. One of them was at the Blind Asylum, one at the Kindergarten for the Blind. All of them were unable to attend school for months at a time. One of them came from the Horace Mann School for the Deaf and Dumb.

Several are deaf, one or two completely or nearly so to ordinary conversation. Many have had operations for the removal of tonsils and adenoids. There is room for the suspicion that some of the operations, and especially the repeated operations for adenoids, done on syphilitic children, are unnecessary. The narrow nasal passages and the swollen mucous membranes of the syphilitic child occasion the same symptoms as adenoids, and the first treatment should be for the syphilis, and only when that is found unsatisfactory, the operations for adenoids.

Many children in this number are mentally deficient to a much less marked degree. Most of them are backward in school because of their various physical defects. It is by no means an easy task for a clinician to know exactly how to classify the mental condition of these children. We hope to have them studied at some future time by expert teachers.

Active processes of the disease may be still going on in various parts of the body, nose, throat, legs, eyes, ears, lymphatic glands, bones as well as internal organs,—heart, lungs, nerves and other organs. For each one of these troubles the child has ordinarily sought relief in the clinic devoted to the special organ affected. Without knowledge of the other affections or the child's history, it is often extremely difficult in these various clinics to recognize the underlying taint which is the real cause of the trouble. At these various clinics these children are treated for their various ailments, but when all has been done for their eyes or ears or throats

that can be done in the special clinics, they are discharged, very properly, but the child still needs treatment for its constitutional condition, which it does not always receive. The children, as we see them, have usually a history of visits to many clinics, where, for a time, they have been the object of care, but with the advent of new symptoms they betake themselves to some new clinic and to new physicians.

A few detailed histories will be worth any amount of description. (See accompanying chart.)

J. C. No. 1, is the result of the seventh pregnancy. The first was born dead; the second lived eight months; 3, 4, 5, and 6 were born dead. John, the seventh, is 12 years old. The eighth and ninth are also living. John, our patient, has been put back in school a good deal because of sickness; has had two operations for adenoids; has glands on the neck said to be tuberculous, but probably due to decayed teeth. He applied at the Eye and Ear Infirmary for interstitial keratitis believed to be syphilitic. He has characteristic syphilitic teeth and slight deafness. He is said to be without ambition and would like to sleep most of the time.

M. S. No. 12 on the chart, was referred to us from the Eye and Ear Infirmary for our co-operation. She is the oldest child of four, only one has been lost. Mary was a seven-months' baby. For a long time had no finger or toe nails. At one year, had pneumonia; at two, nasal obstruction. No teeth until four years old. Did not walk until 3½. Six months ago had severe pain in right leg. Is behind in school. Mother volunteers that Mary is not very bright.

In addition to interstitial keratitis, Mary has scars about mouth and nose believed to be due to syphilitic lesions in infancy. Characteristic syphilitic teeth. The pain in her leg was due to syphilitic periostitis, which is easily recognizable and which kept her awake the night before her visit to the Dispensary.

These surviving children are well worthy of recognition by those interested in diminishing infant mortality, for they furnish the explanation of the death-rate in their families which otherwise might not be recognized. Some of the survivors live to become fathers and mothers themselves. How far they are able to transmit the disease to their own offspring is uncertain, but certainly many of them are unfit to become parents whether they actually transmit syphilis or not. From their undeveloped brains and bodies one cannot expect a very high class of citizens.

They are but examples from a large attendance at the clinic. The seriousness of the group, as it concerns the general welfare, depends largely upon the total amount of syphilis in the community. There is no census of syphilitics nor is one possible at present, but there have been attempts made to approximately learn the amount of the disease in the country. The figures fall between 15 and 20%. It is, then, from its numbers, of no inconsiderable importance, but the failure to rightly report syphilis means

an addition in the report of something else. It falsifies the returns.

It would not be just to leave this subject without drawing attention to the fact that the transmission of syphilis to children is not universal. Many children of syphilitic parents are born without any taint of the disease. In the table quoted from Fournier at the beginning of this paper, it was stated that of 1127 pregnancies in 500 syphilitic families, 600 children were reported as living and well. In addition, it must be noted that time and treatment have great effect in mitigating the evil. One patient at the Boston Dispensary, a man of perhaps fifty, himself the victim of late lesions of syphilis, gave a history of his family as follows: the first child was stillborn, the second died in infancy, the third is living and the fourth is a young man in the United States Navy—a position which presupposes good health, both in mind and body.

And, now, this paper would be incomplete without a word as to the study of the disease as a whole. It is usually spoken of as a venereal disease and syphilis and gonorrhea are classed together. These two diseases are entirely separate and distinct. They owe their existence to two entirely different microscopic organisms which have no relation to each other. They need to be studied as distinct diseases and not as evidences of immorality. The physician must do his share in their prevention and control quite as much as the moralist. Syphilis is an infectious disease—conveyed by the most innocent kiss or even careless handling. No one can for an instant think of calling the children referred to in this paper sinners. Probably at least half of the syphilis in the world is innocently acquired and even the sinners are our brethren.

The desire to attach disgrace to all victims of the disease leads to concealment and difficulty in study. If we are in any way to control the disease, it is necessary to have a moderately accurate knowledge of it. The more we know of syphilis, the more formidable do its possibilities appear. The many fatalities and the possible diseases which may affect the survivors, as well as the good that may be done by supervision and medical care, not only in the way of prevention but in the amelioration and possible cure of the afflicted, it is the object of this paper to point out.

MASSACHUSETTS ANTI-TUBERCULOSIS LEAGUE.
—Under the auspices of the Boston Association for the Relief and Control of Tuberculosis a meeting was recently held to organize the various tuberculosis societies of this State, now thirty-five in number, into a single central body, to be known as the Massachusetts Anti-Tuberculosis League.