A CONSIDERATION OF TARDY SYPHILIS *

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During the past two years, since the introduction of salvarsan in this clinic, more than one hundred and fifty luetic infants and children have been observed, and over seventy treated with salvarsan.

It is not the object of this paper to give merely a description of the various cases, many of them most interesting, but to discuss two classes of cases, with our results and conclusions. The first group is composed of patients with marked congenital lues, having positive family histories, clinical symptoms and triple + Wassermann reactions. The second group is composed of what we consider the marasmic type of luetic infant, as well as children from a year to sixteen years, with late luetic manifestations.

In the first, or active group, five typical cases, all under 3 months of age, were observed and treated with salvarsan, four directly and one indirectly. All had positive family histories, triple + serum reports and marked clinical evidences of lues. Three of the cases exhibited snuffles, fissured mouths and ani, and marked maculopapular eruptions; one child's mouth was a mass of inflammatory areas and patches, and had to be fed by gavage (Figs. 1, 2 and 3). These cases were given 1/20 gm. of salvarsan intravenously, and all died within two weeks after treatment. It was of interest to note the rapidity with which the skin symptoms cleared up in each case, and with this a general improvement for a few days in the infants' condition. Later, however, they all developed a generalized edema, with slight urinary signs, and died.

The fourth infant, 4 days old, showed a marked syphilitic pemphigus, covering almost the entire body, and died forty-eight hours after the administration of salvarsan. The last case in this group was a luetic mother with an infected infant 8 weeks old. Two weeks after the child was born, the mother broke out with patches in her mouth and a secondary rash. Six weeks later she came to the clinic with the infant, whose body was covered with a bright red rash. The mother's blood and breast-milk showed a positive serum reaction, and she was given an intravenous injection of 6/10 gm. of salvarsan. For the next three days the child

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was nursed every three hours by the mother, and on the second day the rash was more pronounced, which no doubt was a Herxheimer reaction described by Ehrlich. Unfortunately, the mother did not return to the clinic after the third day and the case was lost sight of.

Coming now to the latent group, or what we might designate as tardy syphilis, we wish to consider two classes of cases, the first a class which fills probably one-third of our clinics, namely, syphilitic children showing late manifestations of the disease, in the eyes, ears, bones, nervous

Fig. 1.—Baby M., aged 3 months. Admitted Jan. 2, 1913. Showing eruption on admittance and day salvarsan was injected.

Fig. 2.—Same as Fig. 1.

system, skin, etc., with a positive or negative Wassermann reaction, no clinical history or evidence of lues in infancy, and in many cases with no family history of lues obtainable. The second class comprises a group of infants which simulate in every respect the marasmic type of infant, with the history that, although the child is 3 or 4 months old, its weight has never been above its birth weight, it looks dried out and ill-nourished, has no clinical evidence of syphilis, may or may not have an

obtainable family history, and has a triple + or slightly positive Wassermann. We believe that there is a certain class of marasmic infants who, although they show no clinical evidence of syphilis during early infancy, develop manifestations of the disease in later infancy and childhood, as shown in the first class of cases in this latent group.

Of the series of twenty-three cases reported a year ago,¹ and closely watched since, twenty-one presented late manifestations of lues, and ranged in age from 3 weeks to 16 years. They were divided as follows:

- 12 cases exhibiting bilateral interstitial keratitis.
- 2 cases exhibiting bone lesions.
- 3 cases exhibiting 1. Atrophic rhinitis; 2. Arthritis; 3. Backward growth.
- 4. Hutchinson teeth and positive Wassermann reaction.

Fig. 3.—January 10. Showing improvement in eruption eight days after injection.

- 1 case exhibiting encephalitis and interstitial keratitis.
- 1 case exhibiting chorea.
- 2 infants exhibiting early congenital symptoms.

Since these cases were reported, many more patients have been observed and treated, but the above are sufficient to bring out the points in this paper.

In the twenty-one cases, a careful history was taken in each, and in only two cases was evidence of early luetic manifestation obtained. This was delayed walking, which is not necessarily an evidence of syphilis. A definite family history was obtained in seven cases.

As regards the Wassermann reaction, all showed a triple + result, with the exception of five of the eye cases; one of the latter became positive two weeks after the third injection. Possibly the four remain-

1. Yerington, H. H.: A Preliminary Report on Twenty-Three Children Treated with Salvarsan, *Jour. Cal. St. Med. Soc.*, Oct. 12.

ing cases were tuberculous in origin, although no other evidences of tuberculosis could be found. As to the results of treatment, we found that four out of the twelve eye cases cleared up, and for six months have shown negative Wassermann reactions; these were cases in which

Fig. 4.—Born Aug. 12, 1912. Marasmic type. No clinical luetic symptoms. Salvarsan sixth week. Gain in weight after treatment. Wassermann negative on eleventh and thirty-third weeks.

the duration of the infection was short. Cases of long duration, with repeated attacks, and the four negative cases showed little improvement.

Good results were obtained in bone lesions, both in infants and older children.

The cases of partial deafness, with bilateral keratitis, showed no improvement in hearing.

In the case of chorea, two injections were given in four weeks, and the improvement was more rapid than in the usual case, the Wassermann reaction remaining negative after the second month.

Fig. 5.—A. S., born May 12, 1912. Marasmic type. No clinical luetic symptoms. Salvarsan nineteenth week. Steady gain following treatment, with a negative Wassermann on thirty-third week.

The case of encephalitis with keratitis did not improve, although a negative Wassermann reaction was obtained after the third injection. We found, however, that in this case and others exhibiting Hutchinson's teeth, backward growth, and anemia, an improvement in the general

condition of the patients occurred, which was due no doubt to the tonic effect of the drug.

It is our opinion that in order to obtain good results in such a group of late congenital lues, at least three injections must be given at frequent intervals, in good-sized doses, by the intravenous route.

Fig. 6.—Weekly weight chart of H. P., born July 16, 1912. Marasmic type. No clinical evidences of lues. Wassermann negative.

Owing to the fact that so many cases of tardy syphilis show no clinical evidence of the disease in early infancy, we decided to make a study of the marasmic infant so commonly seen in our clinics and hospital wards, with the object of ascertaining, if possible, what percentage

of this group harbored a mild form of lues. We think it possible by the diagnosis and proper treatment, aided by frequent serum tests as the child grows, to ward off some of the later manifestations described above. During the past year every infant coming into the hospital wards and in two of our clinics, showing a stationary weight, with a condition of malnutrition, has had a Wassermann test taken by Dr. Oliver at Lane Hospital. Over one hundred such infants have been under observation, and fifty have been seen every week up to the present time. Eight cases in this group have shown triple + reports, and some others have given a slightly positive reaction. It might be of interest to note here that the cord blood in over one hundred new-born babies has lately been tested by Dr. Oliver, and in a few cases has given a positive Wassermann

Fig. 7.—L. H. Age on admission 14 days. Birth weight 6.3 pounds. At 75 days, weight 6.5 pounds. Seventy-first day Wassermann +++; 75 day salvarsan; 80 day Wasserman ++; 81 day inunctions hydrarg. ammon.; 120 day, weight 7.12 pounds. Wassermann negative on thirty-first week.

reaction. Several of these cases showed no manifestations of lues either in the mother or child, and he ascribes the positive reaction to some placental effect on the serum.

With the exception that these infants in the marasmic group were poorly nourished and did not show a gain (with a rational formula), none of them had any clinical evidence of lues. As a control, several infants of the same type, but with a negative serum report have been injected also. The ages varied from 6 weeks to 5 months; the formulas remained practically the same before and some time after treatment, and the cases were closely watched by several competent physicians. These cases all received from 1/20 to 1/10 gm. of salvarsan, intraven-

TABLE GIVING DATA CONCERNING TWELVE OF AUTHORS' CASES

Tabulated report of twelve cases of double interstitial keratitis under treatment with salvarsan, showing lack of early symptoms, duration of infection, serum reports after treatment and results of treatment.

Case	Age	F. Hist.	Manifestations						Duration Present Infection, Mo.	No. Recurrence	Salvarsan 1st	Salvarsan 2d	Salvarsan 3d	Serum Reports										Unimproved	Cleared		
			Early			Late								Before Tr.	1 Month	2 Months	3 Months	4 Months	5 Months	6 Months	7 Months	8 Months	9 Months			10 Months	Gains in Sight
			Talked	Walked, Month	1st Tooth, Month	Teeth	Lymph. N.	Ozena																			
1	6	+	N	19	13	H	+	..	..	+	+	+	++	++	++	..	..	..	..	..	..	..	..	..	..	..	..
2	6	+	N	22	6	H	+	..	1	+	+	+	++	++	++	..	..	..	..	..	..	..	..	..	..	..	..
3	12	+	N	24	..	H	+	..	2	+	+	+	++	++	++	..	..	..	..	..	..	..	..	..	..	..	..
4	5	—	N	..	10	N	..	..	..	+	+	+	++	++	++	..	..	..	..	..	..	..	..	..	..	..	..
5	12	—	N	24	7	..	+	..	4	+	+	+	++	++	++	..	..	..	..	..	..	..	..	..	..	..	..
6	12	—	N	14	9	H	..	..	..	+	+	+	++	++	++	..	..	..	..	..	..	..	..	..	..	..	..
7	12	—	N	12	8	..	+	..	..	+	+	+	++	++	++	..	..	..	..	..	..	..	..	..	..	..	..
8	12	+	N	18	13	..	+	..	3 $\frac{1}{4}$	+	+	+	++	++	++	..	..	..	..	..	..	..	..	..	..	..	..
9	14	+	N	14	14	H	..	..	4	+	+	+	++	++	++	..	..	..	..	..	..	..	..	..	..	..	..
10	4	+	N	36	8	H	+	..	5	+	+	+	++	++	++	..	..	..	..	..	..	..	..	..	..	..	..
11	16	—	N	24	12	H	+	..	12 $\frac{1}{2}$	+	+	+	++	++	++	..	..	..	..	..	..	..	..	..	..	..	..
12	7	—	N	..	..	H	+	..	1	+	+	+	++	++	++	..	..	..	..	..	..	..	..	..	..	..	..

* N = Normal; H = Hutchinson's Teeth; M = Moon molars.

† Talked at 36 months. ‡ Years. § Life.

Case 3 showed an early skin rash.

ously, under mild chloroform-ether anesthesia, and with the exception of slight gastric disturbances in a few cases, no reaction resulted.

In order to simplify matters, we have inserted into this paper four of the eight weight-charts (Figs. 4-7) kept at the clinic. They show the age of the infant at the time of injection, character of Wassermann before and after injection, and the gain in weight.

In the examination of the charts, we find that in each case the child showed a definite gain within six weeks, and usually less, after the injection, with the Wassermann reaction negative after the injection. Two infants having triple + Wassermanns, but without treatment, gained slowly, but six months later had positive reactions.

We believe without question that in many cases of latent syphilis salvarsan produces a beneficial tonic effect. Whether this gain in weight and general condition in infancy is due to this effect or not, we do not know. No doubt the effect is mainly due to the drug on the luetic virus.

As to parallel results with mercurial inunctions, we have not obtained as rapid a gain, nor has the Wassermann reaction become negative as quickly as in our salvarsan cases.

In concluding, we would say that observing these patients for only two years is too short a time to form any definite opinions. It is only by following them up to puberty with blood-tests at intervals, and careful observations as to late luetic manifestations, that conclusions can be made. We believe that many so-called cases of marasmus are due to latent lues, and that if a diagnosis can be made and careful treatment instituted with possibly both salvarsan and mercury, many of the later distressing manifestations of the disease can be averted.