Sturgis (F. R.) Dr. Bull with kind regards.

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ON THE

PROGNOSIS OF SYPHILIS.

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Perhaps the most common every-day question asked of the surgeon is whether syphilis is curable, and it behooves him to answer this with some degree of certainty and accuracy. Within the past few years our knowledge of the course and duration of syphilis has undergone many important modifications, and the disease which formerly was the *bête noir* of the profession is to-day deprived of half its danger from a more accurate knowledge of its action and effects. Fully appreciating the ravages syphilis may produce, and the frightful consequences which may ensue, I do not hesitate to affirm my belief that a very large proportion of cases entirely recover and that, too, without disfiguration or loss of important organs. Like all other diseases, syphilis tends to self-limitation, somewhat dependent, it is true, upon external circumstances, such as age, constitution, and hygienic surroundings; moreover, if we accept as a fact, which I think we must, its division into the two classes of benign and malignant, and when we see how much the former preponderates over the latter, entire recovery from this disease need no longer be a matter of surprise. Were it not so, how few of the living would have been born healthy, and when we notice the small proportion of syphilitic births to the number of cases of syphilis in any large city, even in the families of those whom we know to have suffered from the disease, it seems to me still further to corroborate my statement. I confess, however, that this is open to criticism as a mere opinion, and is difficult of statistical proof.

Let us suppose a case of syphilis presenting only the primary lesion; are we enabled to foretell with any degree of certainty what the result will be? in other words, will the primary or subsequent lesions give us any clue as to what we may expect in the future? I think they will, and although *not absolute*, still they often furnish us important and trustworthy data upon which to base an opinion.

We know, in the first place, that the initial lesion is not the end of the

disease; subsequent symptoms *must inevitably* make their appearance, the question then arises: Are these symptoms going to be mild or severe? Bassereau in his work[1] furnishes cases bearing upon the kinds of chancre which were followed by mild and by severe subsequent symptoms, and he found that where the initial lesion was phagedenic or showed a tendency to ulcerate, the subsequent symptoms were also of a severe and ulcerative type.

Thus: In 52 cases of tubercular syphilis, the initial lesion was—

Phagedenic in	18
Ulcerative in	22
Superficial in	10

In 68 cases of pustular syphilis the initial lesion was—

Phagedenic in	24
Ulcerative in	41
Superficial in	3

In 77 cases of mucous patches the initial lesion was—

Superficial in	59
Ulcerative in	15
Phagedenic in	5

In 28 cases of papular syphilis the primary lesion was—

Superficial in	17
Phagedenic in	3
Ulcerative in	8

In 170 cases of erythema, the initial lesion was—

Superficial in	146
Ulcerative in	14
Phagedenic in	10

In nearly all the cases where the disease was of a severe type the induration of the ganglia was a marked and prominent symptom.

In looking over these cases we see that where the subsequent symptoms invaded the deeper tissues and were of destructive character the initial lesion was generally of the ulcerative or phagedenic type, while the superficial form of primary ulcer predominated where the subsequent symptoms were mild, and Bassereau has tabulated the result in the following words: "If the initial lesions are mild in character the subsequent symptoms are likewise mild, and show no tendency to suppurate; if, however, the initial lesion be phagedenic the subsequent symptoms will be severe, ulcerative, and attended with suppurating exostoses, necrosis, and caries."

Thus far our patient has only reached the first stage of his disease, and although we have formed some slight opinion as to what may next occur, we must await the appearance of secondary symptoms to confirm it; our prognosis, therefore, will be somewhat guided by the length of the period

of incubation, and the character of the symptoms themselves. Should they appear before their usual time and show a tendency to display, in place of the ordinary roseola, mucous patches, and other symptoms pertaining to the early stage, a papular or pustular form, we are justified in expecting an early attack of such symptoms as usually occur at a later period, which will probably be of an ulcerative nature; while, on the other hand, if the secondary symptoms are mild in character, and readily amenable to treatment, we may with tolerable safety predict a light attack of the disease. Another point of importance in forming our opinion besides the character of the lesions themselves, is the length of time which elapses between the appearance of each separate attack, inasmuch as the longer the period the more feeble the action of the poison, and the less the chances of subsequent trouble. When the disease shows a tendency at the outset to assume a severe type, one train of symptoms may make their début before the last have disappeared, so that upon the same person we can distinctly trace the different stages of the disease, constituting what Ricord called the polymorphism of syphilis. This was very well shown in a patient under my care some time since, in whom the primary lesion was particularly obstinate, deeply ulcerated and serpiginous. In him the roseola amounted to almost nothing, quickly giving place to a papular eruption ; this in turn rapidly became pustular, and these pustules by rupture were covered with small soft crusts, so that I could trace a roseola, papules, pustules, and ulcerations at the same time. These symptoms all came on in spite of an active treatment.

Before going any further let us bear in mind that the usual duration of an attack of syphilis is about a couple of years, that is to say, where the disease is of average severity, and in that interval of time our patient may not go beyond the earlier stages of secondary syphilis, the attacks being repetitions merely of one another, more especially if the lesions be seated in the throat. This is a favourable sign, for it shows that the poison is not active, and has a tendency to remain, to a certain extent, local in character ; this condition of things is still more favourable if each successive attack be lighter than its predecessor.

But perhaps our patient is not so fortunate, and the symptoms, instead of remaining in *statu quo* or receding, show a progressive tendency ; must the prognosis be necessarily unfavourable ? By no means. We will say our patient has gone through various stages until he is attacked with a psoriasis, iritis, or some of the milder ulcerative forms such as ecthyma, how shall we be guided in our opinion for the future ? In three ways : by the history of his preceding symptoms, by the local appearance of the lesions themselves, and by his general condition. If, upon questioning him, we find that his previous symptoms have been light, short in duration, amenable to treatment, and if, as in all probability happens, we further find that his present symptoms, if ulcerated, have no tendency to spread rapidly,

or have been rather slow in appearing, we need not despair, the chances are still good, and even in cases where the disease has attacked important tissues, such as the bones or joints, and where ulcerations, if present, are deep, and show a tendency to spread, although the prognosis must be more guarded, it need not be adverse. I have seen several such cases recover from this disease, and remain well when seen some years after.

Up to this point we have considered merely those lesions which are comparatively superficial in character, and which have not attacked the more important portions of the body. As the disease progresses from the more superficial to the deeper seated tissues, the prognosis undoubtedly becomes graver in a proportionate ratio. The various syphilitic affections of the liver, kidneys, lungs, arteries, muscles, and nerves are all of them important in their relations to the prognosis; those of the liver usually being the least grave. The affections of the kidneys in their earliest stages are comparatively of little moment, the danger lying principally in the tendency to Bright's disease, and the corresponding cachexia. In the latter stages, the tubules of the kidney may be cast off in a fatty, degenerate condition, and the substance of the organ filled with a lardaceous or gummy deposit. Under these conditions the prognosis is unfavourable. The more usual affections of the lung are due to the deposit of gummy material in a diffuse or circumscribed form, and where, as sometimes occurs, this deposit begins to break down, the case may readily be mistaken for one of phthisis, unless we have the history to guide us. But by far the most important and usual lesions are those of the encephalon and spinal cord. Here our opinion as to the future rests in a great measure upon the length and duration of the attack; in the earlier stages when the disease appears to be, so to speak, more functional than organic, the prognosis is as a rule favourable, but where it has lasted for some time, has been attended with an old deposit of gummy material or accompanied by paralysis, the prognosis is usually unfavourable. In such cases of syphilitic paralysis the patient may, indeed oftentimes does, improve under treatment up to a certain point, but he never completely recovers, and is particularly prone to relapse, each succeeding attack of course rendering the prognosis less favourable. Probably the larger proportion of syphilitic nervous diseases do not go beyond the congestive stage; where this is the case, treatment will be of benefit, but in the more chronic conditions treatment seems to be of very little avail. Where nerve tissue is destroyed, or where softening takes place, the prognosis is almost always unfavourable, but even here we must bear in mind that no matter how desperate the case may seem, we need not entirely abandon hope, as such patients will sometimes improve very rapidly under treatment, although they may not entirely recover. In paralysis of special nerves, as of the third, fourth, and sixth pairs, the prognosis is nearly always bad; where the former is the seat of disease, the patient seldom recovers permanently from the attendant ptosis. The

future of these cases depends very much, however, upon the duration of the attack. An interesting case of this kind occurred in the service of my friend Dr. Roosa, at the Manhattan Eye and Ear Hospital, where the ptosis, a recent one, was associated with facial paralysis, and insufficiency of the external rectus, all three being due to syphilis. Dr. Roosa kindly showed me the case and asked my opinion. I gave him but little encouragement; still I advised the mixed treatment.[1] After several weeks of treatment, the ptosis got entirely well, even before his facial paralysis and insufficiency. This latter was remedied by an operation. A month after the treatment he returned to the hospital with a ptosis of the other eye, not complicated with any insufficiency or facial paralysis. He is again improving, but it still requires a strong effort on his part to keep the lid up for any length of time. What the result will be, supposing him to have a third attack, is a permanent ptosis, and that he will have another one is, I think, extremely probable.

The same is true of paralysis of the muscles of the eyeballs, and the longer the duration of the disease the less the chances of recovery.

One of the most serious and fortunately one of the least common of the results of syphilis is that known as "syphilitic cachexia," where it would seem as though the system becoming entirely saturated by the poison had lost all functional and vital power; the patient sinks slowly inch by inch in spite of all that can be done, and finally succumbs to some intercurrent disease, the severity of which is entirely disproportionate to the result. As may readily be conceived, the prognosis is very unfavorable.

In an early part of this paper, it was stated that age, constitution, and hygiene were important factors in forming our prognosis, and I can add but a few words as to the part that age plays in the disease. Old persons and young children, particularly the latter, suffer more severely than do adults, and I shall show further on how large a proportion of deaths from syphilis occur in those under one year of age. If the child be born syphilitic, or if the disease appear within the first month of its existence, the prognosis is very serious; the longer the time which elapses between the child's birth and the appearance of symptoms, the better the chances. These symptoms usually occur within three months after birth; never, so far as I know, later than a year, and their gravity consists not merely in the presence of the external symptoms, but upon the coexistence of some internal visceral lesion, more particularly of the liver or peritoneum, and the consequent exhaustion.

In such as are debilitated, either from some hereditary taint, dissipation, or any other cause, the prognosis must, of course, be more guarded; but even here it is wonderful to see how rapidly they will sometimes recover from the disease. A curious fact, and one which I have often noticed, is,

[1] Iodide of potassium in combination with some mercurial.

that in negroes syphilis usually goes on from bad to worse, in spite of all that can be done; why, I cannot tell, but the symptoms in them progress much more rapidly, show greater tendency to ulceration, and heal comparatively slowly.

The hygienic conditions of the patient must also be taken into consideration; those who from any cause are ill-nourished, or who live in ill-ventilated, over-crowded apartments, are much less amenable to treatment than where the patient has plenty of good food, light and air; this is explicable upon the ground that syphilis is in itself an exhausting disease, causing, in the earlier stages at least, changes in the blood corpuscles themselves.

Thus far the prognosis of syphilis has been only considered as it affects adults, leaving that of hereditary syphilis for a separate consideration, and here is where we meet with the most unfavourable results; the larger proportion of deaths occurring in children under one year of age.

As showing how largely the number of deaths in infants preponderates in the sum total of deaths from syphilis (adults and infants together), I have collected the following statistics from the reports of the Boards of Health of New York and Philadelphia:—

Deaths in New York from Syphilis.

	Total No.	No. under five years.	No. under one year.
1866	44	24	20
1867	76	58	57
1868	77	71	69
1869	77	63	61
1870	106	91	89
1871	142	120	113

Deaths in Philadelphia from Syphilis.

	Total No.	No. under five years.	No. under one year.
1860	9	6	4
1861	9	4	4
1862	21	16	11
1863	28	20	15
1864	25	17	16
1865	30	10	8
1866	22	12	11
1867	25	15	15
1868	43	23	13
1869	21	13	10
1870	23	12	10
1871	19	12	10

From this it would seem that nearly 80 per centum of the deaths from syphilis in the city of New York occur in children under 5 years, and

nearly 60 per centum in Philadelphia. *More than it ought to be; more than it need be.*

Of the total number of deaths in children under 5 years of age, how many succumb at or before their first year? The result is equally sad.

From these figures, therefore, in New York the mortality of infants under 1 year of age is about 96 per centum of the total number of deaths from syphilis in children under 5 years, and about 80 per centum in Philadelphia. In view of these statistics, is it not worth while to consider some means for the prevention of this cause of infantile mortality? Sanitary science has done much to diminish the mortality of many diseases which formerly counted among the dead their thousands and tens of thousands; why not here? It is not upon the culpable ones that the punishment falls most heavily, but upon the innocent.

In a previous portion of this paper, I stated my belief that the larger proportion of persons suffering from syphilis recovered from their disease; but as it is impossible to obtain any statistics regarding the number of cases of syphilis which occur in any city during one year, the proportion of recoveries to those of incurables or of death cannot be given, but some approximation may be made by comparing the *total* number of deaths with those from syphilis. Such a table must of necessity be only approximative and imperfect, as many deaths probably occur which, although indirectly due to syphilis, are ascribed to other causes.

Mortality of New York.

Number	of	deaths	during	1866,	21,206,	of which	44	were from syphilis.
"	"	"		1867,	23,443,	"	76	" "
"	"	"		1868,	24,889,	"	77	" "
"	"	"		(1869,	25,167,	"	77)	" "
"	"	"		1870,	27,175,	"	106	" "
"	"	"		1871,	26,976,	"	142	" "

Mortality of Philadelphia.

Number	of	deaths	during	1860,	11,568,	of which	9	were from syphilis.
"	"	"		1861,	14,468,	"	9	" "
"	"	"		1862,	15,097,	"	21	" "
"	"	"		1863,	15,788,	"	28	" "
"	"	"		1864,	17,582,	"	25	" "
"	"	"		1865,	17,169,	"	30	" "
"	"	"		1866,	16,803,	"	22	" "
"	"	"		1867,	13,933,	"	25	" "
"	"	"		1868,	14,693,	"	43	" "
"	"	"		1869,	14,786,	"	21	" "
"	"	"		1870,	16,750,	"	23	" "
"	"	"		1871,	16,993,	"	19	" "

Unless these figures are incorrect, and I do not think they are so to any great extent, it is apparent that syphilis cannot be ranked as one of the *fatal* diseases, although it may be the cause of death in many instances.

From what has been written, the following conclusions may, I think, be reasonably arrived at:—

1st. That syphilis is a self-limited disease, and the patient, if blessed with a sound constitution, will, in the average of cases, get well, even if left untreated; but this course exposes to great and serious risk.

2d. That some general idea may be formed as to the future from the character of the earlier lesions; *this rule, however, is not absolute, as some cases do occur where the early stages are slight and the subsequent ones severe.* They are, nevertheless, I think, exceptional.

3d. That as the disease progresses, the prognosis is less favorable, more especially where important organs are attacked, such as those of the nervous or arterial systems; and,

4th. That in forming an opinion, due regard must be given to the age and general health of the patient, and in the treatment, attention must be paid, besides the proper use of specific remedies, to strengthening the patient, if debilitated from any cause whatsoever.

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