

**Original Articles.****VARIOLA AND VARICELLA.<sup>1</sup>**

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THE importance of an early and positive differential diagnosis in these diseases, in order that in cases of variola proper precautions may be taken, and that fear and excitement may be quieted in cases of varicella, is my apology for bringing this somewhat trite subject before the Society. The diagnosis of a severe attack of variola in an unvaccinated person presents difficulties only in the first twenty-four hours of the eruption. A mild case of varicella in a child with a thin and delicate skin is very easily recognized. It is stated by some of the authorities that varicella is an infantile disease, and that it is neither preceded by nor attended with any marked constitutional disturbance. The truth of this statement does not bear the test of experience as the report of the following cases will prove. An attack of modified small-pox is a comparatively trivial affair, so far as the physical suffering of the individual who has the disease is concerned, but it may be a serious matter to all unvaccinated persons with whom he may come in contact. Because of the mild character of the disease, the difficulty of a correct diagnosis is very much increased. The term varioloid, too, is calculated to do much harm, not only among the laity, but also among physicians. This word should be dropped from the nomenclature, and the term "modified small-pox" substituted. This disease is not like variola, as the word varioloid signifies, but it is variola of a mild type and modified by vaccination. It is surprising how prevalent the idea is that while small-pox is contagious, varioloid, as it is called, is not particularly so.

In common with all acute diseases a case of modified or unmodified small-pox always commences with a greater or less amount of constitutional disturbance, but frequently in the modified form this is so slight as not to attract the attention of the patient. The same can be said of varicella, although, as a rule, the prodromic stage is shorter. The headache, pain in the back, chills and fever are nearly the same in each of these diseases—differing only in severity and duration. In young children convulsions may be present, although this is not common in varicella, but is quite common in variola. As there is nothing characteristic in the prodromata of these diseases, it is a self-evident fact that a diagnosis cannot be made before the appearance of the eruption. It is claimed by some observers that the pain in the back in variola is so peculiar in its nature and situation that the disease can be detected by this symptom alone. This, however, is purely fanciful and is of no practical use. In regard to the situation of the eruption there is no marked difference between the diseases. The fauces, the genitals, the palmar surface of the hands and the plantar surface of the feet are attacked alike in each disease, although the throat, the palms and the soles are not invaded so frequently or to such an extent in varicella as in variola. As there is nothing characteristic in the constitutional disturbance, as there is no marked difference in the parts of the body invaded, the only sure guide to a correct diagnosis is the appearance of the eruption and its sensation to the touch. In varicella the papu-

lar stage is very short, and it is very rarely the case that this stage is seen; but that there is a distinctly papular stage there can be no doubt. In a person with a thick, dry skin this papular stage frequently gives rise to an error in diagnosis. The vesicles in varicella are not full and round as in variola, but frequently have a shrivelled appearance, rupture easily, and, when ruptured, empty themselves completely. The base of the vesicle, after rupture, frequently transudes a very little bloody serum. There is no induration, as a rule, about a typical vesicle of varicella, but in a thick skinned individual a certain amount of thickening, resembling induration, may be found. Great variation in the size of the vesicle is also a marked characteristic of varicella in distinction from variola. When the eruption begins to dry, this process commences in the centre of the vesicle and causes an appearance which somewhat resembles umbilication, but which is entirely different from the umbilication of the small-pox vesicle. The appearance and course of the eruption in the palms and on the soles is very different in the two diseases. In varicella the vesicles disappear by the process of absorption or by rupture, while in variola, hard, firm disks are formed, which are very gradually removed by disintegration of the integument covering them.

In variola the papular stage is much more marked and of much longer duration than in varicella, lasting from one to three days. At the end of this time a small vesicle, with a minute central depression, appears at the apex of the papule. This central depression or umbilication is pathognomonic of the disease and is never absent. The vesicles now increase in size, are quite firm, filled with a milky fluid, are extremely difficult to rupture, when broken do not empty themselves completely, and are surrounded by a certain amount of induration. At the end of the fourth or fifth day the vesicles are globular in shape, and have lost the umbilicated appearance, because the pressure of the fluid in them has ruptured the tissue which bound down the centre. The next stage is the pustular, which is ended by rupture of the pustule and the formation of a yellow crust, surrounded by a wall of induration, entirely different in appearance from the black crusts seen in varicella. In small-pox, modified by vaccination, a portion of the eruption frequently aborts, that is to say, it does not pass beyond the papular stage, but disappears by absorption.

No one who has seen much of these diseases can, for a moment, doubt that they are caused by two entirely different poisons. Varicella never gives rise to variola; neither does small-pox ever cause chicken-pox. A few cases of varicella, in which the constitutional disturbance was marked and the eruption very abundant, will now be reported.

CASE I. A. B., a boy twelve years of age, with a history of an illness of two days, headache, pain in the back, nausea and vomiting. When he was seen he was found in bed. Tongue very much coated, pulse 100. The body, the face, the mucous membrane and the palms of the hands were covered with an eruption of vesicles and pustules. On the face the eruption had passed through the vesicular stage and was disappearing. On the body the vesicles ruptured easily, or in other words, the walls of the vesicles were quite thin. No induration about the eruption could be felt.

CASE II. J. K., twenty-four years of age. Three days previous complained of headache, pain in the

<sup>1</sup> Read before the Boston Society for Medical Observation, June 3, 1889.

back and nausea. The eruption was very copious. The vesicles were quite large, and were easily broken. A few pustules could be seen, which were surrounded by a slight amount of induration.

CASE III. E. M., twenty-three years of age. This patient had marked constitutional disturbance. The tongue was heavily coated, pulse 100. He was completely covered with a vesicular eruption, which in some places had commenced to dry. The eruption on the face was so copious that there was some œdema of the eyelids. The tongue, as well as the fauces, was completely studded with the eruption. On the face the vesicles did not rupture very easily; on the back and on the thighs the reverse was true. No induration could be felt. There was marked difference in the size of the vesicles. A few days after being seen, it was incidentally learned that for one or two nights the patient was quite delirious.

CASE IV. E. E., this case very much resembles the previous one, except that there was no delirium. The pain in the back was a much more prominent symptom.

CASE V. M. M., age fourteen years. The only point of interest is the great amount of constitutional disturbance manifested by headache, pain in the back and nausea.

CASE VI. A. N. This patient was an infant one year old. The commencement of the attack was ushered in by a severe and protracted convulsion.

CASE VII. W. M. O., twenty-two years of age. There was marked constitutional disturbance. There could be no doubt about the nature of the disease from the appearance of the eruption.

CASE VIII. A. W., thirty-four years of age. This case is of interest on account of the great amount of constitutional disturbance which continued for two days previous to the appearance of the eruption.

CASE IX. E. B., a boy four years old, was taken suddenly with headache, nausea and vomiting. At the end of twelve hours a rash appeared on the body, face and neck resembling, as described by the attendant, the eruption of scarlet fever. The temperature was high, the tongue red and the constitutional disturbance marked. Twenty-four hours after the appearance of the rash, a vesicular eruption appeared. This eruption was very copious, even in some places confluent. The fauces were also invaded to a very considerable extent. When the patient was seen, which was about thirty-six hours after the appearance of the vesicular eruption, he was so sore that he could not turn in bed; the tongue was heavily coated; the pulse and respiration very much increased in frequency. In some places there seemed to be a slight amount of induration about the vesicles, which, however, ruptured very easily. In quite a number of places between the vesicles a fading red rash could be seen, but this was not distinct enough to enable any one to form an opinion regarding its nature. It was perfectly evident that this was a severe case of varicella complicated, possibly, with scarlet fever. At the end of three or four weeks, however, as the child went through the regular process of desquamation of scarlet fever, there could be no doubt regarding the diseases in this case.

The preceding nine cases have been reported somewhat at length in order to show that the constitutional disturbance may be more marked, that the eruption may be more abundant, and that the general severity of the disease may be greater in varicella than in modified small-pox.

The following nine cases are cases of modified small-pox in which the constitutional disturbance was very slight, the amount of eruption small, and the diagnosis extremely difficult:

CASE I. A. B. This patient was a girl eighteen years old; had been vaccinated in infancy. There was no small-pox in Boston at the time she was taken ill. No history of constitutional disturbance. When the patient was seen she stated that two days previous to the visit she noticed a slight eruption on her face. There were in all about twenty-five papulo-vesicular spots of eruption very generally distributed over the entire surface of the body. The patient was sent to the small-pox hospital, much against her wishes. Every person in the immediate vicinity was vaccinated. As this case occurred in a crowded tenement house, it is easy to see what a nidus this case would have formed if it had not been recognized.

CASE II. J. G. This patient was a man twenty-eight years of age; vaccinated in infancy. He stated that four days previous to the time of visit he noticed an eruption on his face and a few spots on his hands. He positively denied having had any headache, pain in the back, nausea or vomiting. There was no indication of any constitutional disturbance. The patient was somewhat surprised when he was told that he had small-pox.

CASE III. J. K. Vaccinated in infancy; thirty years of age. Three days before this man was seen, he stated that he noticed a slight eruption on his face and body, but did not give himself any uneasiness about it. He also said that he was not ill; had had no nausea, no vomiting, no pain in the back. The eruption was perfectly characteristic.

CASE IV. E. C., forty years of age; vaccinated in infancy. No history of any of the prodromata. The eruption was not very copious. There was very little constitutional disturbance at the time of visit.

CASE V. T. C., fifty-five years of age; vaccinated in infancy. This patient was a sailor. When he was seen he had been in Boston about six days. He stated that he noticed the eruption about five days previous to the visit. There was no constitutional disturbance when this man was seen, and no history of any. From this one case, five cases of variola could be directly traced.

CASE VI. W. F. F., twenty-four years of age; vaccinated in infancy. This patient had a slight eruption on his face, for which he consulted a physician, not because he was ill nor because there was any discomfort from it, but because it was unsightly. There had been no headache, no pain in the back, no nausea. When seen, the man was apparently well; the eruption was characteristic.

CASE VII. T. B. This patient was a young woman who had been in this country only a short time; vaccinated in infancy. When she was seen there was absolutely no constitutional disturbance, and she denied having had any of the usual symptoms of the disease. Examination, however, revealed the existence of the firm disks in the palms and on the soles, to which allusion has been made. The reason why this patient was examined so carefully was the existence of a severe case of variola in the family of which the girl was a member. There can be no doubt that this patient contracted the disease in England, passed quarantine before the eruption appeared, and communicated a severe form of the disease to at least two individuals.

As the woman had not been ill no physician had seen her.

CASE VIII. F. D. This patient was a colored man thirty-five years of age; vaccinated in infancy. No constitutional disturbance. He communicated a severe form of the disease to his wife, and also to three or four other persons.

CASE IX. J. T., twenty-four years of age; vaccinated in infancy. This woman had a few of the firm, hard disks in the palms, and a few slight recent scars could be seen on the face and body. The most careful and persistent questioning, not only of the patient herself, but also of the other members of the family, failed to elicit any history of constitutional disturbance. The eruption had been so slight that it had not attracted the attention of any one. As in one of the preceding cases this mild and unrecognized attack of modified variola was the origin of a severe case of unmodified small-pox in a child with whom the patient was brought in immediate contact.

Many more cases, not only of varicella with marked constitutional disturbance, but also of modified small-pox, without illness, sufficient to attract the patient's attention, could be reported. But enough has been said to show:

- (1) That varicella is not necessarily an infantile disease.
- (2) That it is frequently attended with marked constitutional disturbance.
- (3) That small-pox in the vaccinated is not always accompanied with marked disturbance of the system.
- (4) That the history of the case and the general symptoms are of no assistance in forming a diagnosis, but that the appearance of the eruption and its sensation to the touch are the only sure guides.

## THE ABSCESSSES OF HIP DISEASE, THEIR PREVENTION AND TREATMENT.<sup>1</sup>

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THE treatment of the abscesses of hip disease is a question which has been widely discussed, and one upon which diametrically opposed views have been held. No figures bearing upon the relative value of the various treatments have yet been brought forward, and the debate so far has been largely confined to the assertion of personal opinion. As a general rule, surgeons have advocated the early incision of these pus collections wherever and whenever they form. Many of the leading orthopedic surgeons in America, on the other hand, advocate very strongly letting the abscesses break of their own accord unless their character is so acute as to render operative interference necessary. Their reasons for this are: first, the possibility that the abscesses may disappear spontaneously; secondly, that the operation has no effect upon the original disease to which the abscess is only incidental; and third, that there is a risk of septic infection due to operation. At the close of a discussion at the Orthopedic Section of the New York Academy of Medicine, held in the spring of 1889, the Chairman, Dr. Gibney, remarked that however interesting the discussion had been, it had led to no positive results, and that a previous discussion in the same section had been equally fruitless;

<sup>1</sup> Read before the American Orthopedic Association at Boston, September 17, 1889.

and he called the attention of the members, to the fact that the question could advance no further until some figures bearing upon the subject were brought forward.

In the hope of bringing to light some definite facts in the matter, the records of the Children's Hospital have been analyzed for the five years ending in 1888. Incidental to this investigation, such important facts were developed with regard to the conditions of the occurrence of hip abscesses that the division of treatment which relates to their prevention has assumed a much more prominent place in this paper than was originally intended.

We had for analysis several hundred cases of hip disease, which were under treatment in the surgical out-patient department of the hospital. In the five years ending 1888, 360 new cases came for treatment to the out-patient department. Of cases continued from the year 1883, there were certainly 50, giving at least 400 cases which were under treatment in these five years. Taking from this number the 80 new cases which came in 1888, in whom abscesses perhaps had not had time to develop; we had 320 cases under treatment at the out-patient department from 1883 to 1887 inclusive.

The operative treatment of hip abscesses, has been pursued at the hospital, in these years, to the exclusion of every other method, so that every abscess occurring in these cases has been admitted to the hospital and operated upon. There have not been more than a dozen exceptions to this rule in these five years: so that the figures, whatever they may be, are thoroughly representative of the operative treatment. Aspiration of the contents of the abscesses has at times been tried, sometimes followed by the injection of iodoform and similar substances. In every case of this sort it has been ultimately necessary to open the abscess by a free incision.

In the five years from 1884 to 1888, inclusive, there were only 70 abscesses opened in the hospital; and as all abscesses were opened as soon as they become superficial enough to give evidence of fluctuation, this number represents approximately the total number of abscesses occurring in the 320 cases treated in the out-patient department. The calculation cannot, of course, be more than an approximate one. A certain number of the 320 cases disappeared from view without being under treatment for any length of time; but these were few, and, as a rule, not the worst class of cases for the reason that there is no other large orthopedic clinic in Boston, and the cases which progress badly are almost sure to come to the Children's Hospital. The cases which are lost sight of are generally those in which the symptoms quickly subside, or in the long chronic cases where the symptoms never reach any very great severity. It is not, as it is in New York, for instance, where the cases shift from one clinic to another. In Boston they must come to the Children's Hospital, or go untreated, so that the error arising from this source is necessarily a small one.

So far as the writers have been able to judge, the figures represent *very fairly* the total number of abscesses occurring in the 320 cases of hip disease under treatment in the five years. Apparently, it is from a similar class of cases that the statistics bearing on the frequency of hip abscesses collected by Gibney, Marsh, and the Clinical Society have been taken: so that it is perfectly proper to compare the percentage of abscess occurring in this series of cases with the statistics of