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## I.

*An Account of the Smallpox and its Modifications, as they existed in Northampton, from July, 1827, to January, 1828.*

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THE varioloid disease has prevailed in several parts of this Commonwealth the last year; but in no place within my knowledge to the extent which it has in this village. From this consideration, and from the great pathological interest manifested in the subject by the medical profession, I am induced to give a general description of this epidemic, as it has come within my observation.

The disease was brought to this part of the State from New-York, by a pupil of the High School at Pittsfield; and from thence it was communicated to this town by a patient while under its operation. The circumstances attending this case are worthy of particular notice. The subject was extremely corpulent, at the advanced age of sixty-eight, with a constitution

considerably impaired, and wholly unprotected either by variolation or vaccination. A fortnight previous to her arrival here, she had been exposed to the contagion of smallpox by taking tea at an infected house. The symptoms of the eruptive fever were not very severe, as one would naturally infer from her being able to ride while they were upon her. She was seized with pain in her back, passing through her bowels to the umbilical region, nausea, distress at the stomach, and other febrile symptoms. Her pain was frequently compared to that of colic, a disease with which she flattered herself she was affected. These continued to increase for four days, and on the fifth there was a partial remission of the symptoms upon the appearance of the eruption; but this was not so distinct as it usually is. The eruption commenced upon the face and neck, in red spots, without any elevated papillæ, which successively spread over the head, body, and extremities; and even cea-

lesced so as to form one universal efflorescence. This was on the sixth day of the disease. There was also redness of the eyes, an erythematous appearance in the mouth and throat, attended with soreness and a secretion of acrid saliva and mucus. For the history of this case thus far, I am indebted to the professional gentleman who preceded me in visiting the patient a few times, and to an intelligent lady, who was constantly in attendance upon her. It was on the third day of the eruption that I first saw her. At this time the general appearances were such as to afford a presumption that the disease might be a malignant case of erysipelatous inflammation. In process of time, however, all uncertainty was removed, and its resemblance to erysipelas was accounted for from the fact, that she had during her life been subject to this disease from any particular disturbance of the digestive organs. In the course of this day the following additional symptoms were manifested; extreme swelling of the head, closing of the eyes, pyalism, great soreness of the throat, cough, difficulty of deglutition, fulness, and pressure about the chest, with increased fever; and a slight vesicular character was, in some places, given to the eruption. During the night, and on the subsequent day, other symptoms still more alarming occurred, as hemorrhage from the lungs, dyspnoea, sloughing of the mucous membrane, and a copious expectoration of an adhesive mucus, sometimes exhibiting a purulent character. These continued unabated nearly to her death, and the quantity of blood and mucus coughed up was computed in the

last twenty-four hours to at least a gallon. At times she apparently seemed to be suffocating. The fetor of her breath was peculiar and intolerable, and such as any one who was accustomed to it would readily recognize, but I know not that I can describe it if I should attempt. It has been said to resemble that which proceeds from measles, but may be distinguished from it. Such vesicles as appeared were flat and ultimately petechial; none of them became prominent, and the state of the system was such as to preclude the thought that they would ever have been pustules, according to Dr. Good's definition of the term, had the patient continued longer. Some hours previous to her death, there was discovered in various parts, particularly in the mouth and about the lips, a gangrenous tendency, and purple spots on other parts of the body. There was no delirium, nor any evidence of an affection of the brain, as there was in every succeeding case that terminated in death; but throughout the course of the disease there was a depressed state of the pulse, and such difficulty in the chest as to lead me to the conclusion, that there might be congestion of the lungs. Her death occurred on the eighth day of the disease and the fourth of the eruption, and she presented to the eye one of the most hideous and loathsome masses of disease that I ever witnessed. In adverting to this case I have been thus particular, because it was the source from which the others arose; and because it possessed some striking peculiarities, and surpassed in malignancy and virulence any other that came within my notice.

The family into which the disease was first introduced consisted of ten members besides the individual whose case has been related,—six of whom had not undergone cow pock, but as soon as it was practicable resorted to it. They had all been exposed, previously, to the variolous contagion in its most concentrated form; and it was found from this cause, or some other, extremely difficult to infect them with the vaccine virus. Three only could be made to contract the disease, and one of them had it in connexion with the smallpox,—thus affording incontrovertible evidence of the existence of two diseases, notwithstanding the doctrine advanced by Hunter and others, that they are “incompatible with each other.” In this case, though the anti-variolous power of the vaccine disease was not perfect, yet it was such as to carry conviction to any mind, of the great value of vaccination, even after the contagion was received into the system. The other three, unsuccessfully vaccinated, had the disease in an unprotected form. One of which was of a malignant and confluent character, and proved fatal,—the other two recovered. The youngest, an infant, had a slight fever of a day’s duration preceding the eruption, but afterwards appeared as well as usual. The disease, in this patient, was without secondary fever, and the vesicles contained a thin watery fluid, that never became pustular. It was considered by those who were acquainted with chicken pox, to possess in its progress and termination an undistinguishable resemblance to it. The peculiar fetor so generally attendant upon smallpox was not perceptible, yet it

might be regarded as the vesicular form of this disease. The other had the disease in a distinct form with considerable severity, and exhibited the striking features of smallpox, according to the description of the best authors, in so perfect a manner as to remove all doubt in my mind as to the nature of this disease. In illustration of its character I will enumerate some of the most prominent symptoms, especially the local. The eruption was ushered in by strong febrile symptoms, as pain in the head, languor, nausea, vomiting and inability to sit up, of three days’ duration. At the termination of which various papillæ appeared upon the face and neck, which in twenty-four hours extended to every part of the body. In the meantime they enlarged and became elevated, and continued thus till the next day, when small vesicles upon some of their apices were distinctly visible. In the centre of them there was a depression, and around their base an inflamed margin. They gradually increased in number and magnitude, and on the sixth day were distinctly and prominently exhibited over the whole system. On the seventh the vesicles began to assume the pustular character. At this time the areola was of a vivid red color, diffusing considerable inflammation to the surrounding parts, and the external appearance of the eruption presented a most beautiful aspect. It was curious to observe in different parts of the body at this time, the papular, vesicular, and pustular form of the disease. The pustules successively formed from the head to the lower extremities, and gradually filled, losing their central depression, and assuming

an hemispherical form. On the eighth day they were apparently at their height, fully distended, and continued nearly stationary till the tenth. Some of the pustules were ruptured, and the contents were of a purulent character. During this time soreness of the throat came on, ptyalism ensued, the face swelled and pyrexia arose. There was great tenderness over every part of the body. The patient complained greatly of external heat and pain in the hands and feet. These symptoms abated on the tenth day, and the pustules then began to form into crusts or scabs, and gradually became so over every part. The process of desquamation was not perfected until the expiration of several days. In this case the characteristic fetor of smallpox was well marked. There were no pits left upon the surface, but marks of the disease were visible upon the skin for several months.

The remainder of this family, six in number, had been vaccinated, two recently, and immediately after having undergone the disease in a perfect manner, had an attack of the varioloid. In these two patients there was a great similarity,—the indisposition preceding the eruption was very slight, and with the accession of it all inability ceased. There were distinct papillæ scattered over their bodies, but they soon disappeared without becoming vesicular. Of the other four who were vaccinated several years previous, two had smart febrile attacks, undistinguishable from the others, in their essential features, without any eruption, excepting in one there was an indistinct efflorescence upon the

face and breast of one day's duration. In this patient the fever was accompanied with some considerable delirium. The remaining two were domestics; and were the only ones that escaped. Thus it appears there has been manifested in this family a susceptibility to the variolous contagion, unprecedented here if not elsewhere; and the remarkable fact that the two servants were the only members that withstood the influence of the contagion, shows clearly, that there may be, in particular families, a constitutional predisposition to contract the disease.

From this source of contagion others were generated, till the disease was propagated to other parts of the village. Few cases were known to exist at one time, but it continued uninterrupted here for more than six months. It attacked indiscriminately the variolated, vaccinated, and unprotected, and all the varieties were seen, in some instances, promiscuously under the same roof. The proportion attacked of these three classes has been different,—the protecting power of the former being here decidedly superior. During the time this disease prevailed in this place there were only three cases of secondary smallpox; one of these was of an equivocal character, and the other two severe. Of the latter, one had it by inoculation, and after the eighth day of the vesicle had the symptoms of the disease, followed by an eruption of a few days' duration. These patients were exposed by watching and by rendering other attentions to the sick. In connexion with these cases it ought to be remarked, that they all had

the smallpox primarily by inoculation; and that there was not a single case of the disease in those who had it in its epidemic form, though many such were exposed.

In other families where this disease existed, few comparatively contracted it, often not more than one. In a family opposite to the infected house, all the members were vaccinated and re-vaccinated after having undergone cow pock, excepting two, the father and youngest child. Several attempts were made to infect the latter, but without success. The former through ignorance or prejudice absolutely refused to have the disease, notwithstanding he was repeatedly assured of his danger, and told of the probable consequences should he persist in his course. Soon after he had the smallpox in the confluent form, and died on the twelfth day of the disease. A fortnight preceding this case, the child had an eruptive disease of a vesicular character, more mild in its symptoms than any case that occurred within my practice till the termination of this epidemic. Whether the father contracted his disease from the child or not, I am not prepared to say, for he might have been exposed elsewhere. This child was afterwards vaccinated, and had perfect cow pock. Of the members of this family who had been re-vaccinated, as stated above, one only had the cow pock, and this in an imperfect manner, the vesicles drying up on the sixth day. This was the mother, and she was the only one who had the varioloid. At this time she was four months advanced in pregnancy. Her constitutional symptoms were not severe, though the eruption

was exceedingly numerous. It suppurated upon the face only on the sixth day, and dried away into horny scabs on the seventh, leaving tuberculated elevations upon the skin. This patient has since had a living child without any marks of the disease, which has undergone cow pock.

The number of cases in the unprotected has been, as near as I can ascertain, not far from twenty, and about one in three has terminated in death. Those who have fallen victims to this disease have mostly been the infirm and aged, who did not comply with the offers of vaccination. The fatal cases were universally of the confluent character, and there were in all of them, I believe, indications of congestion of the brain, as delirium, stupor, inflamed eyes, a depressed and intermitting pulse, &c. I am aware that it has been affirmed that in post mortem examinations there have been no traces of disease after death, but I cannot conceive that such unequivocal cerebral symptoms can exist without correspondent effects. There were two cases only of the confluent smallpox that recovered, and one was a colored woman, who had the disease in its most severe and protracted form. Both of these patients exhibit pits upon their skin at the present time.

Among the vaccinated the disease was most prevalent, and exhibited the greatest variety of appearances. Almost every case possessed a particular character of itself, yet there was running through the whole a common character. Some cases in the commencement of the eruption resembled measles, others variolous rash, and others again scarlatina,

but these resemblances disappeared as the disease became vesicular. There was no instance of a repetition of an attack here, as has been recorded in other places. Those who were recently vaccinated were as often the subjects of this disease as those who were at a remote period. Ordinarily it was not violent, yet there were two or three cases that nearly approached smallpox, and had the accompanying fever denominated secondary fever. One case of the confluent form after vaccination proved fatal, but the previous history of the vaccine disease was extremely unsatisfactory, and such as led me to the conclusion that it must have been spurious. All that could be learnt was, that some ignorant person had pricked his arm, and that there was a festering sore. The cicatrix was not examined in season to ascertain its character. This patient, previous to his contracting the disease, was often exposed to the action of the virus, and was one who assisted in the interment of Mrs. Clapp, the patient who first died with the smallpox. His not taking the disease at that time gave him great confidence, and made him more daring in his future exposure than he would otherwise have been. He died on the sixteenth day of the disease, the swelling not having left his head at this late period. He was a young man of a vigorous constitution, and exhibited during his sufferings the greatest fortitude and resolution.

But vaccination, in a very great majority of instances, afforded perfect exemption from smallpox, and in others its controlling power was generally evident, and some-

times truly astonishing. The degree of violence was various, and there has been every gradation, from the nearest resemblance to smallpox to the mildest form of chicken pox. It has usually resembled varicella among the young, and might with as much propriety be termed varicelloid as varioloid. Often it has been so slight as scarcely to be observed, and had its origin not been known there would never have been the least suspicion of the disease being modified smallpox. During the symptoms of the eruptive fever, the varioloid did not differ essentially from smallpox,—the attack was very similar. In some instances the fever was in every respect as severe, but in the progress of the disease there was a striking difference exhibited. The course was greatly abbreviated, generally there was no secondary fever, and in a great proportion of cases the eruption was vesicular, seldom becoming pustular except upon the face; and when this was the case it was usually as early as the fifth or sixth day. Sometimes the eruption has been very copious, but ordinarily not exceeding fifty or a hundred vesicles, occasionally nothing more than a dozen pimples. The papillæ, in some cases, were expanded and elongated without vesicular appearance, and in others slightly vesicular. One only was attacked with convulsions; some had delirium, but it was early in the disease. The vesicles were quite often acuminated, resembling very much those of secondary cowpock. In all cases the inflammation was in a measure overcome, and the aspect of the eruption somewhat different. In some soreness of the

throat was present, in others it was wanting. The peculiar smell of smallpox was usually absent. The eruption continued from four to six days, in a few instances longer, and then dried away into scabs or crusts, leaving elevations or discolorations on the skin.

In the decline of this epidemic it assumed a different character. It was confined almost exclusively to vaccinated children, and exhibited the varicelloid form. For the last three weeks I saw but one case in an adult subject, and this had a very full eruption. The other cases were very light, attended with little fever, and seldom required any medical aid. They were but of a few days' duration, and might with propriety be denominated from their appearance, mild chicken pox. None of these children were confined to their beds a single day, and most of them would have been in the streets if the disease had not been contagious.

The sphere of the variolous contagion has been limited, and it has been rare for an individual to communicate the disease to another in passing from an infected house. A case on Round Hill no doubt had its origin in this way. The patient was a member of the school, and was visited during a slight illness by a physician from an infected region. In somewhat less than a fortnight subsequent to this, he was attacked with the varioloid. This patient had not visited the village, and could not have contracted the disease in any other way. As soon as the character of this case was ascertained, he was promptly removed, and not a single case arose from this source in the midst of this dense establishment, notwithstanding

many were unavoidably exposed. At the poor house the disease was also communicated through the medium of clothes, which unfortunately were not sufficiently cleansed. They were brought from a hospital, where some of the subjects of this disease had been conveyed. Two cases here occurred,—one in an unprotected subject, the other after vaccination. Nearly every individual of the town's poor was exposed in some way to the former, as there was no suspicion of the disease, nor any physician called till after the eruption was very full; but not a single additional case among this numerous class of people occurred,—a fact which, with the preceding, speaks volumes in favor of vaccination.

The disease appeared to be most generally communicated during the symptoms of the eruptive fever in the act of respiration,—a period when it is extremely difficult for the most experienced to recognize it, the early symptoms being common to some other febrile diseases. On this account I have thought less benefit is derived from removing patients than is generally supposed. And did our public authorities\* interdict all communication with the infected houses, and turn their attention to the immediate and general introduction of vaccination, the best and only sure safeguard against the danger of smallpox, they would better sub-

\* The legislature have made provision for the general diffusion of vaccination, by making it the duty of every town in this commonwealth to elect annually a committee of three to superintend the same; but, in most of our towns, the law is not carried into execution; and, through this unpardonable neglect, the genuine smallpox is permitted to exist among us.

serve the cause of the community, and sooner arrest the progress of the disease. After vaccination became universal here it was pleasing to witness its effects, and see those prejudices against it, which hitherto had been among many insurmountable, vanish; and though in some individuals it did not afford perfect immunity from the smallpox, yet it had such an influence over this cruel disease, as to disarm it of its terrors, and to convert it into a mild and harmless complaint.

Re-vaccination has been carried to a considerable extent with a view to ascertain its efficacy. As a test of the genuineness of the previous disease, and as more thoroughly infecting the system, it has been without doubt advantageous. But however much the system has been saturated with cow pock, the modified smallpox has occurred afterwards. Hence there must exist in some individuals after re-vaccination has ceased to have any effect, a peculiarity of constitution, that predisposes to this disease; and it is, I imagine, upon this principally, and in part no doubt upon want of perfection in the vaccine disease, that the numerous failures of vaccination depend.

Such are the most important facts in relation to the origin and course of this epidemic. Many cases could be reported as they were recorded at the bedside; but in detail they would be uninteresting, and would occupy too great a portion of the Journal's columns.

## II.

From the London Med. and Phys. Journal.

### VACCINATION IN TURKEY.

SIR,—I hope you will find it convenient to insert in your next

Number the accompanying interesting letter. It is translated from a copy in French, which has been transmitted to me within these few days, by Dr. DE CARRO. The facts which it discloses, whether considered morally, medically, or politically, are very curious. He intended that it should appear in the second volume of my *Life of Jenner*; but as some time must elapse before it can be published, I think it wrong to withhold an account of this signal triumph of vaccination over national and religious prejudices till that event takes place. I therefore transmit Dr. A.'s letter for your Journal, which, during a long series of years, has evinced unwearied zeal and diligence in recording every important circumstance connected with the vaccine discovery.

I have the honor to remain, sir, most faithfully yours,

J. BARON.

Gloucester, Nov. 2, 1827.

*Copy of a Letter from Dr. AUBAN, a French Physician, settled at Constantinople for upwards of thirty years, to Dr. DE CARRO, formerly of Vienna, now of Prague.*

If during so long a time I have not given you any sign of my being alive, it is because vaccination in this country no longer offered any thing interesting: but an event, which no one could have surmised, and which, in consequence, has astonished all those who have been made acquainted with it, ought to be transmitted to you.

Before announcing it to you, I should remind you that no Christian is ever permitted even to touch any prince of the Ottoman race, or still less to take blood from him in any way, or on any