OBSERVATIONS
ON THE
CO-EXISTENCE
OF
VARIOLA AND SCARLATINA,
WITH REMARKS ON THE
CO-EXISTENCE OF OTHER ERUPTIVE FEVERS.

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IN the course of the last eleven years, I have seen, at the Small-Pox and Vaccination Hospital, seven persons who had variola and scarlatina simultaneously. No two of these patients were received from the same place. They all appeared separately, and at various intervals, at times when there was not any other case of scarlet fever in the hospital. The only discoverable disease under which they were labouring, on their arrival, was small-pox; but in the progress of this disease, scarlatina also became evident, between the fourth and the eighth days of the variolous eruption. Judging by the length of time that each disease is known, usually, to remain latent in the system after its reception, before constitutional symptoms are manifested, we may conclude that the germs of scarlatina were received towards the end of the incubative stage of variola, fourteen days being allowed for the development of small-pox, and from five to nine for scarlatina.

It is desirable that it should be clearly understood that these patients had, all of them, the leading symptoms of scarlatina well marked, and that the eruption was different from the roseola which frequently precedes the eruption of small-pox, and also different from the erythema (somewhat resembling it) arising from the miasm of hospitals; in fact, it was the florid red eruption, peculiar to scarlet fever, which can hardly be mistaken for anything else by a medical man, whose eye has once been rendered familiar with it. Three of the patients had small-pox in the unprotected state, and four after vaccination. Six of them were adults, the seventh a child, four years of age. Three were males, and four females. In one it was followed by anasarca, and in two by swelling of the parotid and submaxillary glands, and all had desquamation of the cuticle; a sequence which, it will be remembered, is not usual in small-pox, except in those parts immediately adjoining the pustules, but, on the contrary, almost constant in scarlatina. All the patients recovered but one, and as that case afforded, perhaps, a more striking illustration of the combination of the two diseases than the rest, the particulars are subjoined in full.

Amelia Hayward, four years of age, was admitted into the Small-Pox Hospital in November 1843. She was received on the third day of the small-pox eruption in the semi-confluent form, and had not previously undergone vaccination. She had no dangerous, nor even severe symptoms from the small-pox; but, on the third day from her admission and the fifth of the eruption, there was an evident accession of fever, which continued to increase for two days, when soreness of the throat was noticed, with enlarged tonsils and redness of the skin. The tongue was white in the centre, red at the edges, and elongated red papillæ were perceptible, rising through the white fur; in short, all the leading symptoms of scarlatina were manifest. The redness of the skin continued for four days, when it disappeared; but the parotid and submaxillary glands and surrounding cellular tissue became, about the same time, very much swollen, so that there was

great inconvenience in breathing, owing to the swelling, and an extremely acrid, offensive discharge from the nostrils and ears. She died on the eleventh day after the appearance of the eruption of scarlatina, and the seventeenth of small-pox.

One of the other patients was for some time in great danger from the severity of the two diseases, but ultimately recovered, as did the remaining five.

Domestic servants are often sent, by mistake, during the initiatory fever of small-pox, to the Fever Hospital, at the time when the medical adviser cannot decide, positively, what febrile disease may be approaching. Such cases are generally transferred to the Small-Pox Hospital; but, during the late epidemics, when the hospital was very full of patients, a few of these patients, with the lighter forms of variola, were allowed to continue at the Fever Hospital; and I am permitted by Dr. Goodfellow, then attached to the hospital, to state, that three had also scarlet fever concurrently with small-pox, taken most likely from the scarlet fever patients, near whom they had been placed on first arriving at the hospital.

I may here mention what is only, perhaps, a little remarkable, that three of the patients, with these conjoined diseases, were the servants of medical men. Whether they had, in the execution of their duty, come into contact about the same time with persons labouring under these respective diseases, I cannot say.

It is rare to see two active diseases, such as small-pox and scarlet fever, affecting the body at the same time; as, indeed, it must be, to induce a man of Mr. Hunter's great experience and observation to believe that it never occurred, and to go so far as to state that no two diseases of this kind could go on in the body concurrently. These are his words:—"As I reckon every operation in the body an action, whether universal or partial, it appears to me beyond a doubt, that no two actions can take place in the same constitution, nor in the same part, at one and the same time; the operations of the body are similar, in this respect, to actions or motions in common matter. It naturally results from this principle,

that no two different fevers can exist in the same constitution, nor two local diseases in the same part, at the same time.”* Again:—“In two eruptive diseases, where both are necessarily the consequence of fever, and where both naturally appear after the fever nearly at the same distance of time, it would be impossible for the two to have their respective eruptions even in different parts, because it is impossible that the two preceding fevers should be co-existent.”† He further says:—“But a constitution or part may have equally a susceptibility to a variety of diseases, as venereal, scrofula, &c., some of which may have a common cause, others a specific, as lues; yet the constitution can have, at the same time, only one specific action. As there are susceptibilities for dispositions, so there must be also dispositions for actions; yet two of these cannot exist at the same time in the same part or constitution.”‡ Mr. Hunter states, that the progress of inoculation is suspended if performed at the time when measles is in the constitution, and cites, in confirmation of this opinion, an instance occurring in his own practice. On the disappearance of the measles, the small-pox inoculation went through its usual course, and ended well.§

Unquestionably the examples are but few in which two febrile diseases do occur at the same time, in the same individual; but the rule is not without exception, nor anything like it. Mr. Delagarde,|| of Exeter, gives the particulars of a case in which a person suffered from small-pox and measles simultaneously: and Dr. M'Bride,¶ refers to several such cases as having been seen in Dublin, when measles broke out at the time that a number of children, at the Foundling Hospital, were under inoculation for small-pox. Mr. Leese** relates one such case; Dr. Tracy†† two—one accompanying

* Hunter—Palmer's edition, vol. iii. p. 4.

† Ibidem.

‡ Hunter, vol. i. p. 313.

§ Ibidem.

|| Med.-Chir. Trans., vol. xiii. p. 166.

¶ Practice of Physic, vol. ii. p. 112.

** Medical and Physical Journal, vol. iv. p. 29.

†† Ibidem. vol. iii. p. 572.

inoculation, the other occurring with natural small-pox. Two are given in the report of the New Town Dispensary, Edinburgh.* “In one, the eruption of measles came out on the fifth day of the eruption of small-pox, and both ran their usual course. In the other, the eruption of small-pox came out on the third day of the eruption of measles, which continued visible for two days more.” Other cases may be found reported in the *Gazette des Hôpitaux*,† from the *Hôpital des Enfants Malades*, Paris.

An instance of vaccine disease and measles existing contemporaneously, without interfering with each other, is accurately given by Mr. Gilder‡ of the Coldstream Guards; and many correspondents of the periodicals,§ and I also, have several times seen small-pox and the vaccine disease advancing *pari passu*, without the usual progress of each disease, respectively, having been interrupted, although generally the vaccinia is checked immediately on the outbreak of variola.

Measles and scarlet fever were observed together frequently, by the French, many years ago,|| and more recently by M. Guersent,¶ at the *Hôpital des Enfants*, Paris.

There is a case on record of varicella and vaccinia.**

Hooping cough, I may, perhaps, be allowed to include in the list, although it is not one of the eruptive fevers; and therefore not strictly within the limits I have assigned to myself in this communication. It is, however, like them, essentially infectious and inflammatory in its character, a disease of great danger, often leading to fatal results. Dr. Willan†† has seen it in conjunction with variola; and cases of hooping cough and measles are mentioned, in the report

* Edinburgh Medical and Surgical Journal, vol. xv. p. 314.

† Tom. viii. p. 34. 1834.

‡ Med.-Chir. Trans., vol. xii. p. 186.

§ English Medical Journals, *passim*.

|| Recueil Periodique de la Société de Médecine de Paris, tom. viii. p. 359.

¶ Gaz. des Hôpitaux, 1834, tom. viii. p. 34.

** Lond. Med. Gaz., vol. ii. p. 633.

†† Reports of Diseases of London, p. 38.

from the Dispensary for the Diseases of Children, Doctors' Commons,* as having been frequently seen at once in the same individual. Three cases of this combination were observed by Dr. Robt. Williams :† “ they all occurred in the same family in the depth of a severe winter, and all proved fatal.”

Some years ago a statement was in circulation that vaccination would cure whooping cough, founded I suppose on the axiom of Hunter, that no two febrile diseases could go on at the same time in the same constitution ; but, so far as I have known, this statement requires some qualification. Whooping cough and the vaccine disease may often be seen co-existing, each pursuing its course without interfering or being interfered with by the other. The same law appears to operate here as in other like instances, one disease interrupting, occasionally, the progress of the other ; but it is of less general application than when the two diseases have been received into the constitution casually. However, as the proceeding does no harm, there is not any objection to its being practised whenever opportunity offers : the vaccination is not rendered less effectual, that I am aware of ; and as the tendency of these active diseases is, frequently, for one to suspend the action of the other, it will, doubtless, succeed on some occasions. The vaccination usually takes well.

There is a case reported in the *Lancet*,‡ by Dr. Barnes, of the presumed co-existence of small-pox and scarlatina, and the statement is rendered very likely to be correct from the two diseases being at that time in the house ; but, from a careful perusal of the details of the case, I am disposed to think it was one of those instances of small-pox preceded by roseola, not unfrequently seen after vaccination.§

Dr. Gregory|| says, in an article written before the period

* London Med. Repos., vol. xiii. p. 90.

† On Morbid Poisons, p. 303.

‡ Vol. i. 1845, p. 640.

§ See a similar case in the British and Foreign Med. Review, vol. iv. p. 219, translated from a foreign Journal.

|| Cyclop. of Pract. Med., vol. iii. p. 744.

embraced in this paper, "it has occurred to us to see at the Small-Pox Hospital several unequivocal cases of the simultaneous existence of small-pox and scarlatina anginosa;" and Dr. R. Williams* observes that "the variolous poison is capable of co-existing with many other poisons; also of influencing their actions, and of being reciprocally influenced by them. Dessessarz has seen variolæ co-exist with scarlatina, and with the hooping cough."

Mr. Wilson† remarks, "variola is occasionally complicated with rubeola and scarlatina, and sometimes with petechiæ."

In the *Lancet*‡ a case of small-pox and scarlatina will be found translated from Stiff's Medical Annual of the Austrian States.

"Ring even mentions a case of triple disease co-existing, or of the small-pox, the measles, and the hooping cough, all of which ran their course together."§

Roseola and erysipelas might also be mentioned as being occasionally blended with small-pox, but that I consider the roseola which often precedes the eruption of variola as part of the disease itself; and I regard the erysipelas superinduced by patients being placed in a vitiated atmosphere, as a result which we can almost certainly bring about at will, just as readily as we can insure the effect of any other known poison: and although we recognise erysipelas, when taking place alone, as a special disease, we hesitate to do so when it is complicated with another. A great deal might, doubtless, be said in favour of its individuality. Like other diseases, it is often the result of an unknown cause; on the other hand, it is also often induced by causes that are well known,—or, at least, we know the combination of causes that will induce it,—but it is not the less a special disease on that account; the other febrile eruptive diseases, which we call specific, being the result of unknown causes. Erysipelas is excited by a

* On Morbid Poisons, vol. i. p. 211.

† On Diseases of the Skin, p. 84.

‡ Vol. ii. 1834-5, p. 446.

§ Dr. R. Williams on Morbid Poisons, vol. i. p. 211.

poison that may fairly be called a specific one ; others, giving rise to the eruptive diseases, we call specific poisons, but we know not what they are, except by name and in their effects. It bears a very strong analogy to the other eruptive fevers, all of them most likely having had their origin in occult morbid animal poisons, derived either from man or the lower animals, as that has ; and it is, like them, capable of being propagated by inoculation ; the sponges of an hospital, for instance, conveying it often from one patient to another, thus showing its likeness, in this respect, to small-pox, cow-pox, measles, varicella, syphilis, plague, farcy, &c., all of which can be imparted by inoculation to other individuals ; and I have but little doubt that scarlet fever might be communicated in the same way. Two of these diseases, namely, cow-pox and farcy, we believe, nay are almost certain, originated with the lower animals ; and small-pox is traditionally reported to have had its rise from the camel.

Whenever erysipelas comes under our notice in combination with other diseases, we may strongly suspect, if not feel certain, that there is defective ventilation or some other mismanagement in the apartment of the patient, even when it occurs in private houses, as it sometimes does ; for it should never be forgotten that the presence of one patient in a small room may, by neglect of proper ventilation and cleanliness, produce a condition of the air quite as impure as that in the larger space of a crowded hospital. This state of things I have known to take place in private houses more than once.

I have referred to most of our best systematic works on disease, as well as to the majority of our periodicals published during the last thirty years, but do not find allusion made, in any of them, to the co-existence of these two diseases, small-pox and scarlatina ; and I am not aware that any British writer, with the exception of those I have quoted, has noticed the circumstance of their ever occurring together. The French, however, are no strangers to the fact. In the *Dictionnaire de Médecine*, Art. *Variole*, the writer says, under the head of "*Varioles Compliquées*," "*La variole peut être*

compliquée accidentellement avec la rougeole, la scarlatine, et plus souvent avec le purpura hæmorrhagica.” Rayer* also remarks, that small-pox may be complicated with measles, scarlatina, purpura, croup, pneumonia, &c. ; and I find that as far back as the seventh year of the République Française (1799), three cases of concurrent variola and scarlatina are reported as having been observed by M. G. Vieusseux.†

A case is given at length in the *Gazette Médicale de Paris*,‡ from the Italian journals, by M. Spadafora. Another by M. Baudelocque ;§ and others may be found scattered over the French periodicals during the last few years.||

It may be said that the history of these rare cases, for such they must be considered, is not of much use in practice ; but as the two diseases have occasionally been seen associated, it appears to me to be desirable that the possibility of such a recurrence should be generally acknowledged.

Thus, either from personal observation or from the writings of others, I present examples of the simultaneous occurrence of variola and scarlatina, variola and rubeola, variola and pertussis, variola and vaccinia, rubeola and scarlatina, rubeola and vaccinia, rubeola and pertussis, varicella and vaccinia, pertussis and vaccinia.

It has most likely occurred to some of the Fellows of the Medical and Chirurgical Society to witness instances analogous to those I have adduced.

* Art. Variole, 2^{de} édition.

† Recueil Periodique de la Société de Méd. de Paris, t. 6, p. 417.

‡ 1837, p. 234.

§ Gazette des Hôpitaux, 1842, t. 4, p. 74.

|| Gazette des Hôpitaux, 1832, t. 5, p. 411. Gaz. Méd. de Paris, 1834, p. 312.