Notes on the occurrence of a number of cases of epidemic roseola or rotheln in the City of Glasgow fever hospital, Kennedy Street / by John Brownlee and Campbell S. Marshall.

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NOTES ON THE OCCURRENCE OF A NUMBER OF CASES OF EPIDEMIC ROSEOLA OR RÖTHELN IN THE CITY OF GLASGOW FEVER HOSPITAL, KENNEDY STREET.

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We are led to make this communication as it relates to a matter which must have a considerable amount of local interest.

The presence of an epidemic roseola is a point on which difference of opinion must always exist, and which must be very difficult to prove; but we think that a consideration of our notes will lead to more than a strong suspicion that such an epidemic is at present in our midst.

One of the drawbacks of a fever hospital is the liability to infection to which patients are always exposed through the possibility of the introduction into a ward of some one who is incubating a different infectious disease to that which is there isolated. Lately the epidemic of measles has led to a comparatively large number of such cases being sent in, so many, in fact, that a ward has been set apart for their isolation during the last five months. Cross infection did not occur until about the middle of December, but from that time till the end of the third week in January it was very frequent. At first it was not recognised that a third exanthematous fever was present. This arose from the fact that the first case resembled scarlatina, and occurred in a patient in whom the presence of that disease on admission might be considered doubtful, while the next three were very like mild cases of measles.

On 11th January the determination was come to that epidemic roseola was the disturbing factor, and a ward was set

aside for the isolation of such cases. It was owing to an accident which happened in the administration of this ward that the completeness of the proof given in this paper depends, and how it happened will be found described in the notes on the accompanying table where the history of the infections is detailed.

We got the infection in two ways:—(1) By wrong diagnosis, rötheln existing in place of scarlatina; (2) by the scarlatina patients incubating the former disease on admission.

The number of the former cases seems to have been small, though the ward journals have been carefully searched throughout the period of the last three months of the year, and in only one case did secondary infection follow, which would seem to show that the contagion is less active after the eruption is out. There were, however, two patients about whom, looking back, there can be little doubt were subjects of rötheln. One of these had a rash which gave rise to grave suspicion of measles on admission, so that the child was isolated. Next day the rash had become scarlatiniform, and as the other symptoms, viz., congestion of fauces and tonsils, furred tongue, with the papillæ slightly prominent, and enlargement of cervical glands, rather confirmed the diagnosis of the doctor who had certified it, it was transferred to a scarlet fever ward, where it developed a typical attack of scarlatina.

To go into the details of each case of rötheln as it occurred would take too long, but a summary of the main points is necessary. The disease has been mild throughout, the highest temperature being 100·4°; in several patients it did not rise above normal. Catarrh of the eyes and nose has to a slight extent been present in the majority, but in some absent. Slight faucial congestion and dryness has also been generally present; the tongue has been often furred, and occasionally the papillæ have been prominent. The enlargement of the cervical glands, which seems to be the most characteristic feature of the disease as described by other writers, is a phenomenon which was necessarily masked by our patients having all had scarlatina, but in the few cases where adenitis was not already present it was observed that it occurred. The rash was the main point in the diagnosis. In general it was punctate in origin, the points being of a size which was mean between those of measles and scarlet fever. They were sometimes surrounded by an areola and sometimes not. These points were rarely seen separately, but generally coalesced into minute patches of less area than those of measles and not

nearly so much raised. They were besides of more regular outline. When this was general over the body it exemplified the morbilliform type of rash. But the coalescence might be general, and also accompanied by an erythema as in scarlatina, and then it was almost an impossibility to distinguish it from a scarlet fever rash. Both of these types might be present at the same time on different parts of the same person, and a measly face might accompany a scarlet body.

The colour was not like that of either the measles or scarlet rash, but more of a rose-pink. The development of the rash was as follows:—Generally it was first seen on the cheeks and almost immediately after on the arms and legs, thence extending over the whole body, though in some cases the trunk remained free. The whole duration was rarely more than two days. On one occasion, when it was carefully observed, it was completely out in less than eight hours.

All through, however, our observation was hampered by the fact that all our patients had scarlatina first, and few had that freedom from sequelæ, such as staining of the skin, enlarged glands, or abnormal tongue, which would allow of the perfect study of the disease.

From what has been said it will be seen that the diagnosis must at times be very difficult, if not impossible. The fact that this hospital receives cases of scarlatina alone has given us an exceptional help, and the necessity of separate isolation and subsequent possible mixing with measles cases afforded a final test of the correctness of our diagnosis.

It is interesting to compare our results with those of Dr. Alex. Brownlee, recorded in the *Glasgow Medical Journal* for last August. He has made an observation regarding the variability of the infecting power of the contagion. In two of our wards only one case occurred, and in one ward, where five patients were infected, a child lying among these escaped. The facts that the night nurse who took rötheln was attending to the patients while the rash was appearing (there were no prodromal symptoms, and it was first seen in the morning), and that no subsequent case occurred in the ward, would seem to show that it was much less infectious than measles. We have also noted the variability of the incubation period, though it has generally been shorter with us than with him.

The chief value of our series of cases lies not so much in the clinical record—that is where his is strongest—as in the strength of the proof they offer, from the point of view of infection, that there is an exanthematous fever different to both morbilli and scarlatina.

TABLE OF THE WARD INFECTION, 26TH DECEMBER, 1896—21ST JANUARY, 1897.

Ward A denotes the Ward where patients who had measles were isolated, and Ward B the like for rötheln.

Ward into which patient was admitted.	Name.	Sex.	Age.	District of Glasgow from which sent.	Date of Admission	Previous Infectious Disease.	Disease on Admission.	Date of patient developing Rötheln.	Where sent.	Date of patient developing Morbilli.	Where sent.	REMARKS.
XIII.	C. L.	F.	36	Anderston.	Dec. 18.	Measles, Whooping-cough.	Scarlatina (?)	Dec. 26.				Rötheln incubating on admission (*see Note*).
	M. S.	M.	2		Nov. 7.	None.	Scarlatina.	Jan. 7.	Ward A.	Jan. 28.		Maximum exposure, 12 days.
	J. B.	F.	5		Dec. 7.	Varicella pertussis, Morbilli (2 months ago).	,,	,, 9.	,,			,, 14 ,,
	T. T.	M.	4		,, 4.	None.	,,	,, 11.	Ward B.	,, 29.	Ward A.	,, 16 ,,
	A. K.	M.	2		,, 13.	None.	,,	,, 11.	,,	,, 31.	,,	,, 16 ,,
	J. R.	M.	4		Nov. 12.	None.	,,	,, 21.	,,	Feb. 8.	,,	,, 14 ,,
	Nurse.	F.	24			Measles, Scarlatina.		, 21.	,,			,, 14 ,,
VI.	J. W.	M.	4	Bridgegate.	Dec. 31.	None.	,,	,, 16.	,,	,, 9.	,,	(*See Note.*)
VII.	K. A.	F.	7½	South Side.	Jan. 2.	Enteric fever, Pertussis.	Rötheln ?					
	A. B.	F.	4		Dec. 3.	Measles (3 months ago).	Scarlatina.	,, 11.	,,			Maximum exposure, 9 days.
	Wm. S.	M.	3		Jan. 4.	Measles (1 year ago).	,,	,, 22.	,,			,, 11 ,,
XIV.	M. W.	F.	4	High Street.	,, 6.	None.	,,	,, 11.	,,			Incubating on admission.
II.	J. G.	F.		Anderston.	Dec. 11.		,,	Dec. 15 ?				(*See Note.*)
	S. S.	F.	1 7/12		Nov. 4.	None.	,,	,, 29.	Ward A.	Jan. 26.		Maximum exposure, 14 days.
	K. S.	F.	7	Anderston.	Dec. 16.	Measles (1 year ago).	,,	,, 30 ?	,,			Exanthema present indefinite.
	R. C.	F.	4		,, 5.	None.	,,	Jan. 15.	Ward B.	Feb. 7.	,,	Maximum exposure, at least 16 days.

In all, 7 children have had the three diseases, and 3 more have had scarlatina and rötheln, with a history of measles within the year.

Notes on the Preceding Table.

By John Brownlee, M.B.

At the end of last year I was ill, and did not return on duty till 4th January, so that I had not the fortune to see the first cases myself; but after returning, the main part of the epidemic took place. All the ward journals were carefully searched, and all the possible sources of infection considered, with the results detailed below.

Ward XIII.—C. L. This patient had doubtful scarlatina on admission, but there were sufficient appearances to render her removal to the isolation ward possibly dangerous to the patients there. On the 26th December she developed, with a normal temperature, a scarlatiniform rash all over the body, with slight congestion of the throat and enlargement of the cervical glands. She did not desquamate after either attack, whence it is probable that this was the first case of rötheln.

Ward B.—The infection of this ward with measles took place on the evening of 15th January, when a girl of 5 years old suffering from measles spent a night there. This girl developed her symptoms in a ward in which measles had occurred, but she had no prodromal symptoms, and the beginning of the eruption simulated that of rötheln so closely as to be quite indistinguishable. Had she been longer in the hospital the diagnosis would have been simplified; but though long enough to have taken measles, she was not so long as to exclude rötheln. After consideration, the diagnosis was made from the clinical aspect of the case alone, and she was removed to Ward B. Next day the diagnosis was obvious, and she was transferred to Ward A.

Ward VII.—Rötheln on admissson. This child has neither desquamated nor had any scarlatinal sequela.

Ward VI.—No definite source of this could be traced, but on 5th January a nurse, who could have had access to this ward, showed me a rash which I found to be associated with gastric symptoms, and at the time regarded as caused thereby. Possibly, however, this child was incubating the disease on admission.

Ward II.—This is the most uncertain as regards both the illness and the source of infection.

K. S. and S. S. developed on 30th and 29th December respectively either measles or rötheln. The source of infection would seem to be the same, but K. S. had been only fifteen days in the hospital, and possibly might have a long incubation period of true measles, for there was certainly no source of measles infection in the ward. On the other hand, she had measles one year ago. The diagnosis was further complicated by the fact she was suffering from enlarged glands after scarlatina, and had a temperature of 102° to 103° at the time. S. S., on the other hand, seems to have clinically conformed to the rötheln type. To offer J. G. as the source of infection is merely a suggestion. On the night of the 15th she had a recrudescence of the scarlet rash, but as that is a not unusual phenomenon it attracted little attention at the time.

R. C. had an undoubted attack of rötheln.

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