

patients treated by him, also for the results of the review of contacts in February 1959 and November 1959, and to Miss S. Lehane, consultant gynaecologist to whom I referred Case 9. My thanks are also due to the local authority health visitors who kindly visited the contacts and persuaded them to present themselves for review. Finally, may I say how co-operative I found the patients themselves.

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## INFECTIOUS MONONUCLEOSIS WITH JAUNDICE AND EXTENSIVE SKIN RASH

(REPORT OF A CASE)

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The following case of infectious mononucleosis, which presented clinically as infectious hepatitis and later exhibited an extensive skin rash, demonstrates how the protean manifestations of this disease can lead to confusion in diagnosis.

**Case history.** A young, unmarried woman, aged 21, complained of malaise, epigastric discomfort, and nausea of approximately two days duration. She had noticed that her urine was "very dark". On examination, the throat was seen to be slightly injected, and a tender tonsillar adenitis was present on the left side. The skin presented a definite icteric tinge, although the sclerae were of a normal colour. The spleen and liver were not palpable or tender. A specimen of urine was found to contain bile (with Fouchet's test). A diagnosis of infectious hepatitis was made.

The patient was not seen again until the fourth day of her illness. The jaundice had now become pronounced, and, in addition, a most extensive skin rash had made its appearance. This consisted of closely-grouped, pin-head sized papules, dark pink in colour, distributed evenly over the extensor and flexor aspects of the trunk and limbs. The face, however, although free from the rash itself, exhibited a dusky erythema broken only by an area of circumoral "pallor", with a sharply defined border, where the deeply jaundiced skin presented a startling spectacle.

Further physical examination at this stage revealed the following additional information:

Fauces: follicular tonsillitis with enlarged and tender cervical glands on both sides. Epitrochlear, inguinal, and axillary glands not enlarged. Liver and spleen not palpable. Slight photophobia. Joints N.A.D. Mental apathy and depression. Heart and lungs N.A.D.

The probability that the case might be one of infectious mononucleosis was now entertained for the first time and a white blood cell examination was accordingly done, with the following results:

Wbc	16,000 per cu. mm.
Neutrophils	23 per cent
Lymphocytes	65 per cent
Large—46 per cent	
Small—19 per cent	
Monocytes	12 per cent

This count confirmed suspicions of the nature of the illness and on the tenth day after the first clinical examination, a Paul-Bunnell test was positive 1 : 112.

Repeated a week later the serum was then positive in a dilution of 1 : 448, thus confirming the diagnosis of infectious mononucleosis.

### Discussion

Boger<sup>1</sup> states that the only constant finding in the disease known as infectious mononucleosis is an increase in the mononuclear elements of the blood at some time in its course. He points out that those cases presenting with a sore throat associated with generalized adenitis present no major difficulty in diagnosis, but that extremely mild cases may only be discovered accidentally through the medium of a routine laboratory examination. Cases of a bizarre or unusually severe nature, however, are often misdiagnosed, and the case described is one in point where the original and confident diagnosis proved wrong. Boger quotes a case not unlike this one in a boy of 19 who presented with sore throat, adenitis, a step-ladder temperature chart and leucopenia. There was also epigastric pain, a palpable liver and spleen and bile in the urine, the Paul-Bunnell test being positive 1 : 448.

Jaundice is not, apparently, a common complication of infectious mononucleosis. Bernstein<sup>2</sup> points out, however, that cases of "catarrhal jaundice", splenomegaly and a lymphocytosis may, in fact, be cases of infectious mononucleosis. Bernstein also states that of cases actually diagnosed as infectious mononucleosis, only one per cent show jaundice and that jaundice may occur in the absence of an enlarged liver. He also quotes a case of infectious mononucleosis developing jaundice 1 month after recovery. Boger<sup>1</sup> attributes the first description of jaundice occurring with infectious mononucleosis to Mackay and Wakefield<sup>3</sup>. Halcrow *et al.*<sup>4</sup> described 296 cases of infectious mononucleosis, and found latent jaundice in eight of them. Jaundice in infectious mononucleosis has also been described by the following: Fowler and Tidrick<sup>5</sup> (one case), Stuart *et al.*<sup>6</sup> (two cases), de Vries<sup>7</sup> (three cases), all reported by Martin<sup>8</sup> (with two cases of his own), Carter and Gold<sup>9</sup> (two cases), Paul<sup>10</sup> (five cases), Howard<sup>11</sup> (one case), Leavell and McNeel<sup>12</sup> (one case), and Monat<sup>13</sup> (one case).

Leavell and McNeel<sup>12</sup> found the blood cholesterol levels lowered to 50-60 mg. per cent during jaundice, rising to 199 mg. per cent during convalescence, and attributed this finding to intrinsic liver damage. The low incidence of reported cases of jaundice occurring with infectious mononucleosis may well be due to the almost identical picture presented by infectious hepatitis, and, no doubt, if blood films were to be taken from cases diagnosed as the latter with more frequency, the relative incidence of the two diseases would be changed.

As regards the occurrence of a skin eruption with infectious

mononucleosis, Tidy<sup>14</sup> points out that in the glandular and angiose forms an exanthem is rare, but that urticaria may occur. He states, however, that in the febrile type a macular rash may occur and that young children with the disease may exhibit a rubelliform eruption. Again one has to consider a change of outlook when making a diagnosis in a child with a rubelliform rash and occipital adenitis. Templeton and Sutherland<sup>15</sup>, in discussing the exanthem of infectious mononucleosis, state that this usually fades before enlargement of the lymph glands can be detected. They state that in the 1930 epidemic in England a rash was common, usually maculo-papular or roseolar, and resembling that accompanying enteric fever. Lyght<sup>16</sup> in a hundred cases of infectious mononucleosis occurring among the students at the University of Wisconsin, found a rash in five per cent of cases. The rash was usually fine, discrete, pink-red, and maculo-papular, or papular and infrequent on the face. He also noted urticarial, purpuric, and vesicular rashes, sometimes associated with pruritus. According to Bernstein<sup>2</sup> a rubelliform rash may be followed by pigmentation and a scarlatini-form rash with subsequent desquamation. Gourichon<sup>17</sup> quoting contemporaries, noted morbilliform, urticarial, and erythematous rashes, while Radford and Rolleston<sup>18</sup> reported two cases of infectious mononucleosis with rashes resembling typhus. In addition, Lohe and Rosenfeld<sup>19</sup> describe skin lesions resembling erythema nodosum. Bernstein,<sup>2</sup> quoting these examples of an exanthem with infectious mononucleosis, states that a rash occurs in nine per cent of cases.

Carlile and Blackford<sup>20</sup> have reported a case of infectious mononucleosis with a papulo-macular erythematous rash associated with obstructive jaundice.

### Comment

A case of infectious mononucleosis is described with an extensive rash and jaundice.

Extracts from the literature on infectious mononucleosis associated with these two complications are briefly reviewed. The similarity of infectious mononucleosis with jaundice to infectious hepatitis is stressed. Attention is drawn to the pleomorphic character of the rash which may accompany the illness and indeed be its main characteristic.

In all difficult cases blood film examinations, repeated if necessary, will aid in making the correct diagnosis.

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## THE RESULTS OF TONSILLECTOMY

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The writer studied all cases of tonsillectomy for the years 1954 to 1957 occurring in his practice. Those cases whose medical records were still in his possession this year (1960) were selected and analysed for a period of two years before and two years after tonsillectomy. All items of service were classified into seven disease categories and a count of surgery attendances or home visits required for each category was made. In this way, the amount of ill health could be compared before and after tonsillectomy, and an attempt to answer statistically the critics of the need for tonsillectomy can be made. Sixty-three children formed this group. The average age at tonsillectomy was 6.9. Each child scored a number which represented total items of service before and after operation. The number of children with higher scores before than after were 45 (75 per cent). These were improved by operation. Thirteen (20 per cent) who scored higher after operation were judged to be made worse. Five children had equal scores before and after operation and were unchanged (9.5 per cent). In the improved group the average score before operation was 16.5 and this was reduced to six after the operation. In those made worse by operation the score before was 8.7 and after was 14. The total effect of tonsillectomy on health can be seen in table I. With the exception of skin diseases there is a very significant fall in disease incidence after the operation.