TABLE III.—*Blood Groups*

Patient	..	A ₁ , MNS, Le(a-), cde/cde, C ^w -, Duffy+
Donor I	..	A ₂ , MNS, Le(a+), cde/cde, C ^w -, Duffy-
Donor II	..	A ₁ , MMS, Le(a-), cde/cde, C ^w -, Duffy-

The advance of our knowledge of antigens in human blood is a serious hint to transfusion workers not to contemplate blood transfusion as a routine procedure, but as a medical treatment which needs the closest consideration. Though by that means all undesirable reactions cannot be avoided, it may help to lessen their incidence.

We wish to thank Dr. J. J. van Loghem, jun., for controlling our results in his laboratory.

[After submitting this article for publication we became aware of a paper by V. I. Krieger and R. T. Simmons (*Med. J. Aust.*, 1949, 1, 85), which deals with a similar transfusion reaction.]

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Medical Memoranda

Codeine Sensitivity

In spite of the widespread use of codeine in therapeutics, only 12 cases of idiosyncrasy have been recorded in the literature, including an earlier case I reported (Mackenzie, 1949). However, the similarity between the reaction to codeine and one of the exanthemata makes awareness of the possibility a matter of some clinical importance, especially in view of the increasing tendency of the laity to take codeine compounds for a "cold" or sore throat. Publication of the following two cases therefore seems justified.

Case 1

A motor mechanic took two "veganin" tablets one evening for a "cold." The next morning he noticed an irritation affecting the whole body, and in the evening, 28 hours after taking the tablets, a rash appeared on the trunk and thighs and around the angles of the mouth. Next morning the rash was follicular, with a surrounding erythema; it was most marked over pressure areas, particularly the anterior folds of the axillae, the groins, and the belt area, but was present over most of the trunk and around the left angle of the mouth. He had some general malaise, which he put down to the original "cold." By the next day, without any special therapy, the rash had faded and the irritation lessened, and two days later the rash disappeared, soon followed by the irritation. There remained a fine powdery desquamation, particularly on the anterior folds of the axillae and over the lower face. The patient now felt well. He had never taken veganin before.

The specific nature of the reaction was demonstrated a few weeks later by giving a test dose of codeine phosphate, $\frac{1}{4}$ gr. (16 mg.) at 3 p.m. Irritation appeared on the lower lip at 7 p.m., and by 9 p.m. had spread to the trunk and thighs. About 11 p.m. a follicular rash appeared all over the body. Both rash and irritation remained through the next day, when a blood count showed 120 eosinophils per c.mm., and on the following day the rash was fading and the more severely affected parts were peeling. Two days later all that remained was some irritation in the belt area and on the thighs. While the rash was present there was

general malaise, headache, and nausea. There was no pyrexia throughout, and there were no lesions in the mouth.

Some weeks later the patient was given morphine, $\frac{1}{4}$ gr.: no reaction of any kind developed. He was then given codeine phosphate, $\frac{1}{4}$ gr., as a single dose, followed by "benadryl," 50 mg. three times daily. The rash and general symptoms appeared as before, but on this occasion there was practically no irritation.

Case 2

This patient, a girl aged 12, had been given two veganin tablets for a headache and sore throat in the evening. The following morning her body was covered with an irritating rash, which the district nurse reported as scarlet fever. When seen the second morning, the rash was fading, but there was still some irritation present on the chest and arms. Her temperature was 99° F. (37.2° C.). The fauces were inflamed and the tongue was coated. On the following day the rash and irritation had disappeared, leaving only a fine branny scaling.

Further inquiry showed that the patient was not sensitive to aspirin, but she had not previously taken any codeine compounds. Accordingly, two weeks later, when all signs and symptoms had subsided, she was given one tab. codein. co. B.P. (codeine content, 8 mg.). Four hours later an itchy macular rash appeared on the face, backs of the hands, and flexures of the knees, spreading in two hours to the chest. Within 24 hours the rash involved the whole body, but was most marked in the waist area and the flexures of the knees. During the next 12 hours the rash faded and the irritation lessened, and in a further 12 hours the rash and irritation had disappeared. There remained only a fine powdery desquamation for a further two days. There was no fever or malaise.

Several weeks later the patient was given a pill containing codeine phosphate, $\frac{1}{4}$ gr. (8 mg.). A similar reaction followed, and took the same course as already described. Some time after this had subsided she was given a tablet of morphine sulphate, $\frac{1}{4}$ gr. Four hours later she noticed a slight irritation of the skin, but no rash appeared.

No other member of the family showed any reaction following ingestion of codeine.

Comment

Case 1 differs from the one I previously reported and from Case 2 in that general malaise accompanied the reaction, and the idiosyncrasy was confined to the single opium alkaloid—codeine. In both cases here reported a definite desquamation followed. Neither patient had previously shown any allergic manifestations.

The pruritus and the rash, which may be macular or follicular at the onset, are the features common to all the recorded cases. In addition, some have shown desquamation, eosinophilia, and malaise.

According to the literature, skin tests have been used with varying success to demonstrate codeine sensitivity. In view, however, of the apparent rarity of the condition, their practical value must be limited. As with other suspected drug eruptions, the easiest and best test is the effect of repeating a small dose of the drug.

The literature has been reviewed by Scheer and Keil (1934) and by Seidmann (1943), who also reported further cases.

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