

MYELOGENOUS LEUKÆMIA—TREATMENT
BY BENZOL. AND X-RAY

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AMONG the various methods of treatment recommended for myelogenous leukæmia none has attracted more attention in recent years than that which consists in the administration of benzol. Given alone, or in combination with x-ray treatment to the spleen and long bones, the improvement has been so rapid, so marked, and has extended over so long a period, that the idea of spontaneous remission, in explanation of the favourable results, may be confidently excluded.

Starting with the first therapeutic administration of the drug by Von Koranyi in 1912, a considerable literature has grown up around this topic, which has not only emphasized the efficacy of this method of treatment but also drawn attention to its possible dangers. Both of these aspects may be appreciated by reference to the communications of Billings, in the *Journal of the American Medical Association*, 1913, and of Barker and Gibbes in the *Johns Hopkins Hospital Bulletin*, December, 1913.

The following case is an instance in which benzol, combined with x-ray treatment, has unquestionably produced a marked improvement not only in the blood picture but on the patient's general health, without inducing any of the untoward effects that in some cases have followed the administration of the drug.

G. H. K., aged forty-eight, came under observation first on May 20th, 1919, complaining of loss of weight and strength, and "a depressed feeling in the stomach". He had had diarrhoea, one or two watery motions with some mucus daily for six weeks. The loss of weight amounted to about twenty-eight pounds. He had become sallow in the last year. He had a slight attack of influenza in 1918, and two or three years ago had suffered from hæmorrhoids. There was no history of serious illness and his habits were good.

The family history was unimportant. Physical examina-

showed him to be of rather sallow and anæmic appearance. There was nothing in the visceral examination except a slightly palpable liver and a considerably enlarged, hard and palpable spleen. The splenic dulness measured 17×11 cm. Blood examination on May 20th gave:

Red blood celb. 3,700,000
 White blood cells. 73,000
 Hæmoglobin.69 per cent.

Differential count, May 30th:

Polymorphs.46 per cent.
 Small mononuclears. 4 per cent.
 Large mononuclears. 1 per cent.
 Mast cells. 2 per cent.
 Myelocytes.47 per cent.

2 normoblasts were observed in this count.

Benzol was begun on May 30th, m. v. with an equal quantity of olive oil, in capsule, three doses daily, increasing the dose by m. i every second day, and was continued until he left hospital on June 20th.

X-ray treatment was started on June 1st, and continued daily, with an intermission of five days, from June 7th to June 11th, to the date of leaving hospital, June 20th. Blood counts made on June 4th, 14th, and 19th, gave respectively 109,000—114,000 and 48,400 white cells. It is interesting to note the temporary increase of the white elements at the beginning of the treatment, which is the rule in most of the cases hitherto reported. Coincidentally with the decrease of the white cells there was a marked reduction in the size of the spleen, which became barely palpable.

Mr. K. had planned a trip to the Pacific coast, and as he was feeling much better it seemed advisable to allow him to leave with the caution that he was to continue treatment and to have a careful blood count made on arrival at his destination.

I saw him again on July 31st, and was surprised at the change in the blood picture. Red cells 5,600,000—white cells, 3,000 (an actual leucopenia). There were still a few myelocytes to be found after a careful search.

Benzol was discontinued at once, and as he felt very well there seemed to be no objection to his returning to his home in New Brunswick on the understanding that he should have sufficiently frequent blood counts made in St. John by Dr. Abramson to whom I am indebted for the following:

September 18th, R. C., 4,100,000; W. C., 3,300; H., 75 per cent.

November 13th, R. C., 5,270,000; W. C., 14,500; H., 98 per cent.

December 11th, R. C., 5,080,000; W. C., 6,600; H., 100 per cent.
(no myelocytes)

June 11th, 1920, W. C., 15,800 (no myelocytes).

During the period extending from November, 1919, to June, 1920, benzol and x-ray treatment were taken intermittently. Writing on June 14th, 1920, Mr. K. states:

"I have been very well indeed for the last six months, but recently my white cells begin to run up again."

He is now again having a course of the combined treatment.

It is probable that the condition is only in abeyance, but this much can be said that no other form of treatment can show as beneficial effects in what is admitted to be an incurable disease, and if it be borne in mind that frequent blood examinations and very guarded dosage are absolutely essential, it may be admitted that this is a distinct advance in the therapeutics of myelogenous leukaemia.