

**LEUCOCYTHEMIA: AN ESSAY,
TO WHICH WAS AWARDED THE
BOYLSTON MEDICAL PRIZE OF
HARVARD UNIVERSITY FOR 1863**

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Leucocythemia: An Essay, to Which Was Awarded the Boylston Medical Prize of Harvard University for 1863 by Howard Franklin Damon

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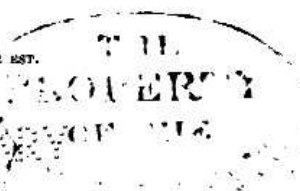
TO WHICH WAS AWARDED THE BOYLSTON MEDICAL PRIZE
OF HARVARD UNIVERSITY FOR 1863.

BY

HOWARD FRANKLIN DAMON, A.M., M.D.,

FELLOW OF THE MASSACHUSETTS MEDICAL SOCIETY; MEMBER OF THE BOSTON SOCIETY FOR MEDICAL
IMPROVEMENT; MEMBER OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION;
ONE OF THE FURNACERS, AND SUPERINTENDENT, OF THE
BOSTON DISPENSARY.

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By an order adopted in 1826, the Secretary was directed to publish annually the following votes:—

1st, That this Board do not consider themselves as approving the doctrines contained in any of the dissertations to which premiums may be adjudged.

2d, That, in case of publication of a successful dissertation, the author to be considered as bound to print the above vote in connection therewith.



P R E F A C E.

A LARGE portion of the following Essay has been necessarily devoted to the difficult task of condensing into as small a compass as possible whatever is known in regard to the origin and formation of the cellular elements of the blood. While engaged in these studies, similar ones were pursued abroad; and Dr. WILLIAM ROBERTS communicated to the Royal Society, Feb. 10, 1863, some observations upon the appearances of the blood-corpuscles under the influence of solutions of magenta and tannin. An account of these experiments is given in the "London Quarterly Journal of Microscopical Science" for July, 1863; and figures also of the blood-corpuscles. About the time of his discovery, similar phenomena were noticed by the author of this Essay in pathological blood.

It may be interesting to know something more of the history of the two cases of leucocythemia which were then under the care of the author. The following account of the removal of the large glandular tumor from the neck of the little boy, eight years of age, by Dr. DAVID W. CHEEVER, was communicated by him to the Boston Society for Medical Improvement, April 13, 1863; and published in the "Boston Medical and Surgical Journal," April 30, 1863:—

"This tumor, which was about as large as two closed fists, had existed for twelve months, but had increased very rapidly in size in the last month. As it showed no signs of softening, but was steadily enlarging, and had begun to create dyspnœa by pressure on the nerves and trachea, it was deemed best to attempt its removal. The skin moved freely over it. A number of enlarged cutaneous veins ran over it in various directions. The tumor felt to the touch lobulated and movable, as if made up of an enlarged chain of lymphatic glands. It extended from near the middle line of the neck in front, back upon the edge of the trapezius on the left side, and above, from the lobe of the ear and angle and body of the lower jaw, down to and beneath the clavicle. The left shoulder was depressed by it. The boy looked otherwise pretty healthy.

"March 31.—He was etherized; and an incision made from just below the ear to near the cricoid cartilage, through the skin and platysma, disclosed a lobulated, hard, glandular mass, lying mainly beneath, and partly behind, the sterno-mastoid muscle. Contrary to expectation, it was found very adherent in all directions, and the lobules bound together by strong, fibrous tissue. Considerable time and care were requisite to divide the adhesions, which were too strong to yield to any thing but the edge of the knife. It was found necessary to divide the sterno-mastoid, and dissect aside the external jugular which ran, somewhat displaced, over and through the tumor. The lower edge of the tumor extended beneath the clavicle, into and below the subclavian triangle. The base lay over the sheath of the carotid, which was necessarily exposed about two inches. Continuous dissection was required even to the last adhesion; for they could nowhere be made to yield at all."

The boy recovered in a few weeks, a large part of the wound healing by first intention. It is now eight months since the operation was performed, and there is no appearance of a return of the tumor. The boy is still somewhat pale, and a microscopic examination of his blood gives a larger number of white corpuscles than is usual in the normal condition. Within a few days, a similar case has presented itself in a boy seven years old, the same side of

the neck being affected. The enlargement of the glands in this case commenced about five months ago; and there is a large, lobulated, movable mass of them extending from just below and behind the ear to the clavicle in front, and also somewhat backwards upon the neck. They are soft, elastic, not painful to the touch or otherwise. The boy seems to be in good health, and the blood is not yet perceptibly affected.

Dr. Cheever has also met with a similar case since his removal of the tumor in the first one. These numerical hypertrophies of the lymphatic glands are of slow growth, and it is many months before the system becomes perceptibly affected by the introduction of their elements into the circulation. The consequences of the local suppuration of large masses of these glands are much more to be dreaded than the immediate effects of the introduction of an excessive number of their cellular elements into the blood, or even of a surgical operation. The latter may co-exist with the red blood-corpuscles for a long time without any serious results. Nor should an operation be discouraged whenever it is practicable, since, by this means, life may be prolonged, and the chances of recovery afforded.

In regard to the author's case of splenic leucocythemia, much might be said, as its whole history is the most remarkable of any in the records of this disease. The boy died April 17, 1863, exhausted by the diarrhoea which never wholly left him. No post-mortem examination could be obtained; but the enlarged liver and spleen could be distinctly felt through the abdominal walls, extending low down into the abdominal cavity. Two days before the boy's death, some blood was taken from his finger, which presented, upon microscopic examination an hour or two afterwards, numerous large, nearly colorless, or but faintly yellow crystals, having very distinct outlines. They