

A CASE OF MYELOGENOUS LEUCOCYTHÆMIA.

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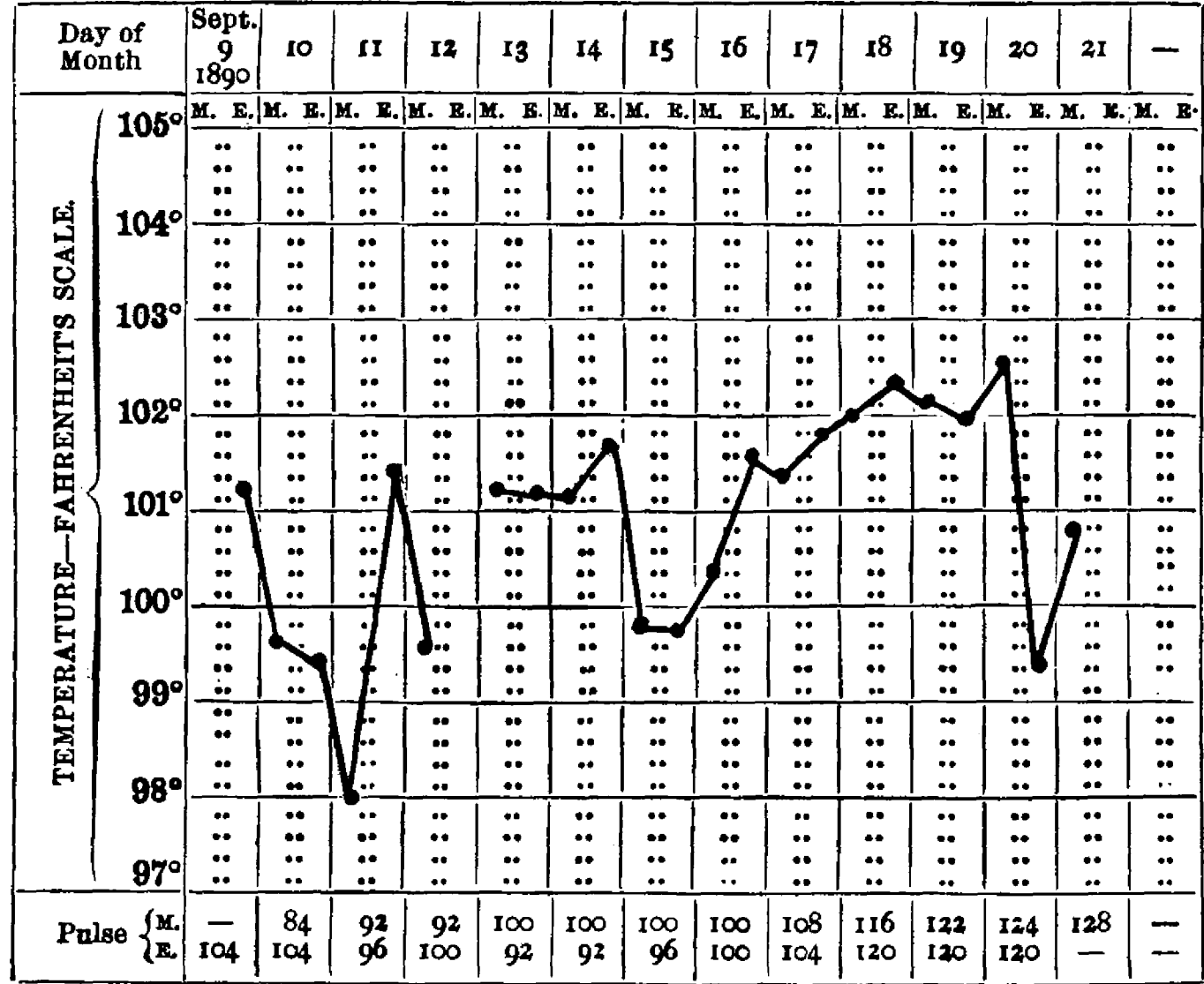
THE case I am about to relate is one of myelogenous leucocythæmia. The rarity of leucocythæmia, and the special rarity of the purely myelogenous form, and also the fact that a complete *post-mortem* examination was made by Dr. Bewley, are my reasons for bringing this case before the Academy.

Mary H., aged thirty-five, unmarried, dressmaker by occupation, was admitted into the Adelaide Hospital, under my care, on Sept. 9th, 1890. Her history before admission was as follows :—

She had scarlatina when a child. She was subject, when a child, to frequent attacks of epistaxis. She stated that she enjoyed very good health until five years ago, when she caught cold, and was said to have had pleurisy and bronchitis and some affection of the kidneys. She recovered from this, and remained well until last June, when she began to feel her stomach out of order. She lost strength ; her bowels became confined. Seventeen days before admission to hospital her legs became swollen, and felt cold and numb. At first there was no pain nor redness of the skin ; but after four days, hard, red, burning and tender nodules developed on the legs. For about four or five days the nodules did not alter in appearance ; but after this they gradually enlarged, and began to alter in colour and resemble bruises. She suffered from night sweats ; complete anorexia ; bowels were very much confined. She had got very thin. She had no headache or cough. She had not been troubled with palpitation nor breathlessness on exertion. She had occasionally “singing noise at the top of her head.” She stated that she had a delicate stomach always, but never vomited. She occasionally had pain under the left scapula.

A week before she came into hospital she had a copious hæmorrhage from the uterus. She had not menstruated for 13 months. As regards family history, her father died of heart disease; her mother died of some brain affection.

Course of Temperature and Pulse-rate from day of admission to Hospital until death.



On admission to hospital her condition was as follows:—She was very anæmic in appearance, and looked very ill. The gums and conjunctivæ were very pale. The veins in her neck were full, and there was a distinct venous murmur. She had typical nodes of erythema nodosum on her legs, and one node on the ulnar aspect of the right wrist. Her liver was found to be somewhat enlarged, the spleen was not palpably so. The urine was loaded with lithates, and contained a trace of albumen. Her tongue was very pale and furred. There were a few mucous râles at the bases of the lungs. A well-marked systolic murmur was audible all over the heart; its point of maximum intensity was in the midsternum opposite the third intercostal space. The pulse was 108, of large

volume, and somewhat abrupt. The temperature was 101° , and the respirations were 32.

A few days after admission it was found that the sternum was exquisitely tender on pressure; the ribs were only slightly tender. The cardiac murmur was very loud and very rough in character. The blood contained a great excess of white corpuscles. Dr. Bewley kindly examined her blood on two occasions—on Sept. 17th and Sept. 19th. On Sept. 17th he found that the proportion of white to red was 1 to 5. The red corpuscles were greatly diminished in number, being less than one million to the cubic millimetre. On Sept. 19th he found the proportion of white to red to be 1 to $5\frac{1}{2}$, and the red numbered about one million to the cubic millimetre. The patient's strength rapidly failed, she was attacked with diarrhoea, became delirious, then comatose, and died on Sept. 21st, thirteen days after admission to hospital.

Dr. Bewley made the *post-mortem* examination. The following is his account of it:—

Body pale everywhere; well nourished; no œdema.

On opening peritoneum, no ascites. Peritoneum, and especially omentum, had many little dark-gray or blackish spots, irregular-shaped, round or long, small in size, like particles of soot scattered in peritoneum—probably old blood extravasations.

Viscera in normal position.

Pleural cavities.—No fluid; one slight adhesion at right apex, none at left.

Lungs.—Anterior part very pale, and free from blood; posterior part darker, redder in colour, very little air, much œdema, sank in water—hypostatic congestion and œdema.

In lungs were a few small patches of catarrhal pneumonia, square in shape on surface, roughly triangular on section, red, solid, slightly raised above the surface.

Pericardium normal, except large white spot on right ventricle and a smaller one on right auricle.

Heart rather large; relative size of parts normal; valves and openings normal; myocardium here and there fatty (zebra-stripes on muscoli papillares, &c.).

Right heart was full of pale pinkish clot, uniform in colour; left had darker clot below and lighter above. In arteries and veins the clots were pale pinkish colour; all *post-mortem* clots.

Aorta and œsophagus normal.

Stomach normal.

Intestines.—In upper jejunum surface of mucous membrane, all over, had a number of faint grayish spots, small, about size of villus.

In ileum two small calcified nodules in mucous membrane, size of No. 6 shot, whitish.

Peyer's patches not thickened; blackish-gray spots all over; stubbly-beard appearance. (Can she have had typhoid?)

Colon, &c., normal; four hernias of mucous membrane in sigmoid flexure and rectum—small diverticula.

Mesenteric glands normal, except one which was calcified.

Kidneys, 6½ oz. each, rather firm, very pale, uniformly semi-translucent appearance; capsule came easily off; cortex of normal thickness.

Supra-renal capsules normal.

Spleen, 10 oz., pale and pinker than normal, otherwise seemed normal.

Liver, 72 oz., did not contain very much blood, yet seemed nutmeggy in appearance; consistence normal.

Gall-bladder normal, half-full of thick bile, which flowed easily into duodenum.

Retro-abdominal tissue normal.

Pancreas normal, except yellowish mucus in duct.

Uterus had recent clot in it. Ovaries, &c., normal.

Brain.—In left corpus striatum, and elsewhere but less, hæmorrhage into perivascular spaces.

Corpus dentatum cerebelli seemed rather prominent on section, otherwise brain normal.

Bones.—Left femur very compact and hard; medullary canal of normal size, smooth inside; marrow red and fairly firm, not fatty.

Skull-cap unusually heavy and dense.

Spongy bones.—Vertebræ, sternum, seemed normal.

Microscope.—Marrow of femur in $\frac{1}{2}$ per cent. chloride of sodium showed—

1. White blood corpuscles, some large, some smaller ; each with one round nucleus.

2. Red blood corpuscles, some normal (most), some irregular-shaped (pear-shaped), some (a few) with a nucleus.

3. Spindle-shaped connective tissue cells.

4. A few oil drops.

In vertebræ nothing but white blood corpuscles, and very few red blood corpuscles.

A microscopic examination, made by Dr. Bewley, of the liver, spleen, and kidneys gave the following result :—

Liver.—The liver cells in places were atrophied, and their place was taken by a soft loose kind of granulation tissue—*i.e.*, a network containing many small round and polygonal cells, most of which had fallen out. The capillaries seemed rather dilated. Everywhere between the liver cells there were unusual numbers of eucytes. In the liver cells were some fat drops.

No evidence of iron was found in the liver.

Spleen.—Sections stained in logwood showed nothing unusual. Sections stained in ferrocyanide of potassium and hydrochloric acid showed here and there cells stained blue—*i.e.*, containing iron albuminate derived from breaking down of hæmoglobin.

Kidneys.—Some cloudy swelling of the epithelium of the convoluted tubes was found.

There can be little doubt that the case I have described is one of myelogenous leucocythæmia, and for the following reasons :—

1. Symptoms during life.—There was most exquisite tenderness on pressure over the sternum, and to a less extent over the ribs.

There was an absence of any lymphatic gland enlargement, and the spleen was not palpably enlarged.

2. The *post-mortem* appearances.—The marrow in the centre of the femur was much redder than normal, and a scraping of it showed red corpuscles and white corpuscles in great numbers. Some white corpuscles were large, and a few nucleated red corpuscles were also seen.

There were no enlarged lymphatic glands found. The spleen was only a little enlarged ; it weighed 10 oz., and on examination it was found to be healthy, except for evidence of increased hæmolytic (as showed by iron test).

It is interesting to note the occurrence of erythema nodosum in this case. Before the patient died the nodes had flattened down, and there was only staining left.

DR. GRAVES asked of what kind were the white cells found in the blood, and whether the red cells were altered in appearance. Dr. von Jaksch states that it is probable that no case of pure myelogenous leukæmia has yet been recorded, and he mentions that one case which he saw, in which changes were found in the medulla of the long bones similar to those mentioned by Newman, there was disease of the kidneys. In Dr. Beatty's case there was disease of the kidneys also.

DR. WALLACE BEATTY, in reply, said, except that there was a great increase in the white corpuscles, and a diminution in the red, there was nothing unusual observed by examination of the blood. The cloudy swelling of the renal epithelium he considered accounted for by the fever which was present.