

etc.; they should have a supply of water sufficient for many visitors so as to warrant a larger outlay of money for extensive future development. While the character of these model spas as health-resorts would have to be considered as paramount, everything would have to be constructed and arranged artistically and tastefully without any attempt at luxuriousness, although hotels and boarding-houses should satisfy different tastes and different purses. Altogether, the aim should be to make these establishments in time self-supporting and producing revenue from a moderate "cure-tax," from rents of hotels, boarding-houses, restaurants, stores, baths, etc., just as the European "baths" are made self-supporting. To accomplish all this, the foundation would by this time have collected a staff of men experienced not only in the medical side, but in civil and sanitary engineering, architecture, landscape gardening, in the real estate and in the hotel business and also in advertising. For it would now be necessary to make its work known to the people, although in the first part of their existence the new spas would have to depend for their patients on the physicians of the country when the physicians had once obtained sufficient guaranty of favorable conditions.

With the completion of these model establishments and the demonstration of the fact that there are mineral springs in the United States which afford the same advantages as those of Europe, the task of the foundation would apparently for the time being be completed. Besides the maintenance and constant enlarging and improving of its own places, however, it would find sufficient occupation for the medical and for the technical staff in continuing to publish reports on therapeutic results with its own and other springs, in giving all kinds of information and advice to physicians, to other watering-places and to the general public, forming in fact a kind of clearing-house for the interests of balneology and mineral springs. Naturally the effects of the creation of the model spas would have to be watched for some time to judge of their value, but certainly many Americans would appreciate the efforts of the foundation and, once demonstrated that perfectly appointed mineral springs can be found at home, not only would these pioneers begin to flourish, but there would shortly arise the demand from the people that the other American watering-places conform to the same standard and adopt the same character in order to receive continued patronage. Naturally the foundation could not assume control of all American springs, but could aid the improvement of other places by furnishing the advantages of its experienced staff, possibly by lending money on mortgage at a moderate rate for improvements, if the owners would conform to certain reasonable requirements and allow a certain supervision of their administration. If anybody doubts whether a private institution without any power granted by the government could obtain such an influential position and wield any authority, let him remember the existing relations of the universities and colleges of the country with a certain foundation. In time the medical profession as well as the laity would become used to looking to the "Mineral Spring Foundation" for information and advice in all matters relating to the mineral springs, and gradually all watering-places would find it to their interest to cooperate with the foundation and show adherence to its principles. Such a foundation might be placed in any convenient city, although its location in Washington, D. C., would offer the advantage of greater opportunities for the use of the government institutions and libraries and avoid from the beginning

the appearance of a sectional character by giving it the stamp of a national institution.

Doubt may be raised whether the plan which has been tentatively outlined is feasible, or whether the medical profession will show sufficient interest in the matter to make the undertaking successful, but there can be little doubt with regard to the advantages which would accrue from such a foundation and with regard to the blessings which it might confer on the entire nation and country.

By developing and popularizing the domestic medicinal mineral springs, a large number of the citizens and inhabitants of America, thousands and probably in time hundreds of thousands, would be enabled to improve or restore their failing health by cures which to them are or seem now unobtainable because they are found only in Europe; the value of the lives and earning power saved thereby would run into a very large sum.

A certain proportion of those who are accustomed to go to European watering-places for their cures at a great sacrifice of time and money will be glad to go to nearer places at home, if they have the guaranty to find the same advantages; thereby a good share of the millions of dollars will be kept at home which now are annually spent abroad—often enough in a vain search for health and recuperation.

The development and improvement of our domestic mineral springs will give regular employment and remunerative occupation to a great number of people, probably to many who on account of moderately impaired health are precluded from such employment at all, or from employment at other localities.

The attraction of many of our citizens to the improved spas will be the means of bringing them nearer to and make them better acquainted with the charms and beauties of their own country which at present are a sealed book to thousands who have been all over Europe. Better acquaintance could not fail in the end to produce greater love of and greater pride in their country.

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A CASE OF SPLENIC ANEMIA WITH UNUSUAL FEATURES

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Recently, renewed interest has been shown in splenic anemia and closely allied conditions, the effort having been made to separate the clinical entities and to define more clearly, as well as to discover further, the causes of the conditions. A probable relationship between certain cases of infantile splenic anemia and kala-azar and between splenic anemia and *ponos* has been pointed out, but awaits confirmation.¹ The comparative rarity of splenic anemia and the presence of unusual features in the following case seem to justify placing it on record.

Patient.—G. G., male, single, white, aged 17, a native of Turkey, dish-washer, was admitted into the service of Dr. H. A. Hare in the Jefferson Hospital, April 7, 1911. Parents are living and well; three brothers and two sisters are in good health. Two brothers died in infancy of unknown causes. No history obtainable of tuberculous or malignant disease.

History.—The patient is not known to have had any of the diseases of childhood. He denies venereal diseases. He does

1. This matter has lately been reviewed in an editorial in *THE JOURNAL A. M. A.*, Aug. 12, 1911, p. 566.

not use tobacco and uses alcohol only occasionally and then not to excess. His general health has been good until February, 1911. The patient was first seen April 7, 1911. The onset of the present illness was very gradual (during February) with general weakness, headache, shortness of breath on exertion and frequent attacks of palpitation of the heart. The patient stated that about six months previous to the onset—or in August, 1910—he noticed a swelling in the upper part of the abdomen, which had appeared gradually and had not occasioned any pain or disagreeable sensations beyond a sense of weight. During March, 1911, he felt feverish during the day and had frequent night sweats. In the last six months he had lost considerable weight. He had not complained of cough. There was no hemoptysis, epistaxis, hematemesis or melena. He had not noticed swelling of the feet or lower abdomen. There were no symptoms referable to the urinary tract. The appetite was good and the bowels regular. The patient had been working up to the time of his admission, April 7, 1911.

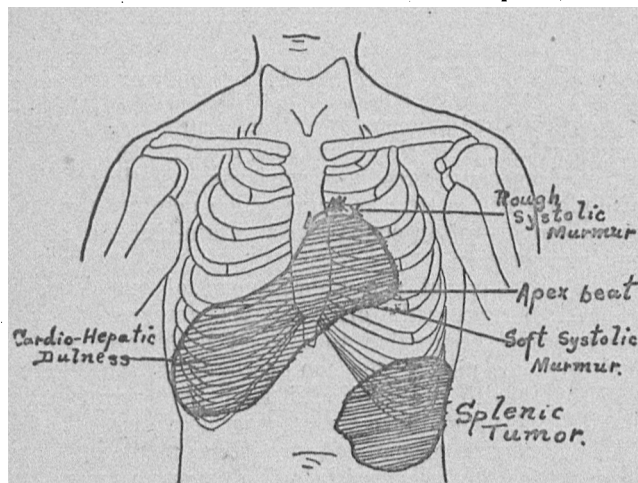


Diagram showing findings in a case of splenic anemia.

Examination.—The patient was a fairly well-nourished young man of short stature. The skin was warm and of a brownish-yellow color. Temperature 101 F.; pulse 110; respirations 24. The pupils were equal and reacted normally; conjunctivæ were pale and had a slight icteroid tinge. Lips and buccal mucosa were pale; tongue was moist and coated with a uniform grayish-white fur. None of the superficial lymph-nodes were palpable. The chest was symmetrical; expansion equal and full. Pulmonary resonance was clear and the breath sounds were normal. The apex-beat was visible and palpable in the fourth left interspace in the midclavicular line. A soft blowing systolic murmur was heard at the apex and was transmitted slightly toward the axilla. A rather rough systolic murmur was heard at the second left intercostal space near the sternum and was transmitted a short distance down the sternum.

Abdomen: The musculature was firm and well developed. Liver dullness extended from the fifth interspace to the right midclavicular line to one finger's breadth below the costal margin, the lower border being distinctly palpable on deep inspiration. The spleen was palpable as a large tumor in the left upper quadrant of the abdomen, extending downward and mesially to within one finger's breadth of the umbilicus, the dullness extending upward as far as the seventh rib in the midaxillary line. The surface felt smooth and the notch was plainly palpable along its lower and mesial border. No tenderness was associated. The tumor was fairly movable. The kidneys were palpable but not abnormally movable. There was no evidence of ascites.

Urine Report: Amber, 1022; acid, a faint trace of albumin, no sugar, no crystals and no casts.

Splenic puncture was refused; no Leishman-Donovan bodies were found in the peripheral blood and no malarial parasites discovered. The feces contained no ova, parasites or blood; Wassermann reaction was negative; x-ray examination showed an extensive shadow in the region of the spleen.

Treatment.—Fowler's solution was given in ascending doses with Bland's pill (gr. v) three times a day. Tincture of digitalis and nux vomica were given during the first two weeks.

Course.—The temperature range was irregular, being subject to transient rises but never over 101 F. and rarely normal. The patient's general condition steadily improved but there was no appreciable change in the size of the spleen or liver. The character of the murmurs heard over the heart varied from time to time. Splenectomy was advised but refused. The patient was discharged May 15, 1911. He has been seen and studied in the out-patient department of the hospital about once a month since his discharge. He is able to work and says that he feels much better than before admission, but nevertheless is losing weight gradually and still has an irregular temperature range.

A recent blood-count made July 27 showed: hemoglobin 44 per cent., erythrocytes 3,880,000, color index 0.57, leukocytes 4,600, polynuclears 66.2 per cent., small lymphocytes 18.5 per cent., large lymphocytes 3.8 per cent., degenerated cells 7.7 per cent., transitional types 3.8 per cent., no eosinophils or basophils, many poikilocytes, many microcytes, no nucleated red cells, slight polychromatophilia.

A still more recent count made August 29 showed: hemoglobin 55 per cent., erythrocytes 3,950,000, color index 0.7, leukocytes 4,600, polynuclears 76.7 per cent., small lymphocytes 18.1 per cent., large lymphocytes 4.3 per cent., eosinophils 0.9 per cent.; no myelocytes or nucleated red cells; moderate poikilocytosis.

DIFFERENTIAL DIAGNOSIS

The primary anemias can be excluded in this case by the blood-picture and by the enlargement of the spleen and liver. In hypertrophic cirrhosis of the liver, so common in young adults, the splenomegaly is slight; there is usually jaundice and the liver is more enlarged

TABLE SHOWING ANALYSES OF BLOOD-COUNTS IN A CASE OF SPLENIC ANEMIA

Date	Hemoglobin (per cent.)	Erythrocytes	Color Index	Leukocytes	Differential Count					Other Elements	Remarks
					Polynuclears (per cent.)	Small Lymph. (per cent.)	Large Lymph. (per cent.)	Eosinophils (per cent.)	Basoph.		
4/8	38	2,050,000	0.7	1,800	63	31	6	0	0	Few macrocytes; few microcytes; no erythroblasts; no myelocytes. No erythroblasts; no myelocytes.	Slight poikilocytosis; red cells stain poorly.
4/10	30	2,710,000	0.7	1,200	55	33	5	7	0		Slight poikilocytosis; no malarial parasites.
4/18	47	2,700,000	0.8	3,400	73	22	4	1	0		
4/24	43	2,900,000	0.7	3,200	65	26	6	3	0		No malarial parasites.
4/29	41	3,310,000	0.6	3,000	68	29	2	1	0		
5/5	53	3,900,000	0.6	2,400	76	10	2	8	0	Myelocytes: Eosinophilic, 1 per cent.; neutrophilic, 3 per cent. Myelocytes: Neutrophilic, 3 per cent.; eosinophilic, 0 per cent.	
5/9	58	2,750,000	1.+	3,200	59	27	3	8	0		

with more or less associated tenderness; in addition to this, the blood-findings are not characteristic. Syphilitic cirrhosis of the liver is excluded by a negative history of syphilis, absence of the other signs of the disease and a negative Wassermann reaction. In Hodgkin's disease considerable enlargement of the spleen is frequent and often some enlargement of the liver is associated, but the general marked lymphatic hyperplasia is a very essential feature which is absent in splenic anemia. Malignant disease of the spleen (especially Gaucher's endothelioma) is extremely difficult to differentiate and in this case may even yet be a possibility, but the blood-findings and the general improvement would favor excluding it. In the absence of examination of material obtained by splenic puncture, kala-azar cannot be absolutely excluded and we regret that we were unable to satisfy ourselves in this matter.

The direct diagnosis in this case is based on gradually developing painless enlargement of the spleen and liver (the former attaining a great size) without any apparent underlying cause; the associated weakness; the characteristic blood-findings consisting in marked reduction in the number of leukocytes and erythrocytes, marked diminution of the hemoglobin and the scarcity or absence of abnormal elements. The fully developed case of splenic anemia, especially when approaching a fatal issue, is associated with jaundice and ascites constituting the full syndrome of Banti's disease.

The unusual features of this case to which attention should be called are:

1. The absence of hemorrhages from the mucous membranes (epistaxis, hematemesis, etc.), which are so common in the reported cases.
2. The presence on several occasions of an excess of eosinophils, of myelocytes and nucleated red cells.
3. The irregular and elevated course of the temperature over a period of at least three months, continuing at the present time (September, 1911).

In conclusion I desire to express my thanks to Prof. H. A. Hare for the privilege of studying and reporting this case and for the use of the laboratory reports. I am indebted to Dr. E. J. G. Beardsley for his kind suggestions in the preparation of this report.

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PRURITUS ANI: THE PROBABLE CAUSE AND AN OUTLINE OF TREATMENT

A PRELIMINARY REPORT, BASED ON RESULTS OF ORIGINAL RESEARCH *

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It is not without considerable diffidence that I present a paper on this subject, about which so much has been written, so many different opinions have been expressed as to its etiology, and as many sure cures have been presented, but which still has remained the same old pruritus to plague our patients and baffle our skill. I believe the correct etiology has not yet been published, and cures have mostly been temporary improvement. As a preliminary statement and in connection with this work, it must be understood that I have reference only to the true pruritus ani that has the constant symp-

toms of thickened skin, radiating in folds; macerated in most cases, and with lack of pigmentation, skin fissures and a parchment-like condition of the skin. Scratching or rubbing the parts gives no relief. Itching occurs with great regularity, particularly when the patient prepares for bed and in the early part of the night. Some cases give trouble during the day, but the nightly periodicity is almost pathognomonic. There are cases of itching about the anus that may be caused by some trivial abnormal conditions, like a simple fissure, ulcer, diseased crypts, a fungous growth affecting the skin, pediculosis, etc., but the itching from these causes is not true pruritus ani, and is easily cured by appropriate local measures.

I have had no opportunity, as yet, to test the pruritus ani and pudendi of diabetic patients, and cannot tell whether the same cause will be found in these cases or not. It is important, however, that differentiation shall be made between true pruritus ani and the ordinary itching caused by conditions mentioned above.

Operations have been done (Ball's) that have divided all nerve-supply to the skin. It blunted the nerve sensibility and left the parts crippled as to sensation, but otherwise the disease remained the same.

Many opinions have been given as to the cause, no adequate proof was given, and few, if any, cures resulted. Knowing all this, you will wonder that any person could have the temerity to claim to have found even a probable cause and to recommend a line of treatment for the cure.

I shall not boast that I have found the true cause, but will give you the results of original research for the past few months which has been ably seconded by Dr. Fred M. Meader, bacteriologist to the Syracuse Medical College, to whom I am greatly indebted for his able assistance and to whom I extend my sincere thanks.

I gave considerable thought to this condition, as all of you have done, and have always been baffled. I have never been able to give honest encouragement to these sufferers.

During the early fall of 1910, I resolved that I would have cultures made of every case of pruritus ani which presented, and have the bacteriologic findings carefully recorded. If the same pathogenic bacteria were found in all pruritus cases, and this germ should be absent in cases not afflicted with pruritus, I should consider this a factor at least in its etiology.

The bacteriologic findings in the first few cases showed that large numbers of streptococci were present. It is a matter of common knowledge that the appearance of the skin about the anus is almost identical in all cases of pruritus ani, which indicates that the same infection may be the cause in all. I recalled the fact that the treatment heretofore given by me, which gave the greatest relief, was one that had for its principal item a strong germicide; this was confirmatory.

Since beginning our investigations, we have examined nineteen cases of typical clinical pruritus ani, and streptococci have been found externally on the skin in excessive numbers in every case.

We have examined in exactly the same way five cases having other rectal diseases; only one of these control cases showed any streptococci outside the anal canal, and these were very few.

After seven cases had shown positive streptococcal infection, we considered this a progressive step toward finding the etiology. We then decided to make a blood-test with some cases to show the opsonin test for streptococci in comparison to that for other organisms. It has

* Read before the American Proctologic Society at Los Angeles, June 27, 1911.
The detailed reports of this work and of these cases are printed in full, and a reprint will be sent by the author, on request, to any reader who is sufficiently interested.