

ing the tissues to melt down before their advance, and that they heal very slowly.

Haly Abbas does not mention the occurrence of ulcer of the leg or varicose veins in women, although in a modern American or European practice, among the well-to-do, many more women are seen with these affections than men, because of their dependence on the tumor of pregnancy. The reason for the omission probably was that Mohammedan women, then, as now, were supposed to have no souls, and their bodies were prized accordingly, and furthermore in a harem land it is improbable that Haly ever saw an ulcer or a varicose vein in a woman.

Not alone does Haly Abbas not mention the occurrence of varicose veins in women, but he makes no mention of treatment, excepting that ulcer of the leg heals with great difficulty. It must be borne in mind that he lacked all knowledge of the venous circulation, a knowledge that now forms the keynote of all our care of this condition.

This capital disadvantage in the ability to treat this condition, together with the poverty of the male patients who were afflicted with varicose veins and ulcer of the leg, would deter such a man as Haly Abbas from giving them attention, as neither honor nor fee would be his reward. In fact, it would be an anachronism to imagine such a "swell," whose very name, Ali, means sublime, attending at all to the ailments of lowly creatures such as slaves and women. It must be remembered that the prosperous workingman, who often nowadays gets far better attention than the very rich, is a modern invention.

Treatment, however, may have been the farthest from the thoughts of the Arabian scholar in writing a treatise on medicine. We are so used to looking on medicine from the point of view of treatment that it is difficult for us to regard symptoms as being employed exclusively to elucidate theoretical or ethical points, but it is possible that the study of medicine for this scholar of the tenth century was almost entirely abstract or academic. He makes one minute clinical observation that might lead to suppose this to be a fact. He says that "the veins are green or black in color even if only slightly so." Previously to reading Paul Richter's translation, I had paid no attention to the color of varicose veins further than that they had a deep, dark tone especially when large and tortuous, and this all seemed so natural as a consequence of the excessive saturation of the blood with carbon dioxid, as not to be worth remarking. The veins have a green tint also, occasioned by the blue color shining through the yellow epithelial layers of the skin, and as this yellowness becomes more marked with advance in years, the consequent green tint is particularly well seen in a disease of middle or elderly life like varicose veins. Haly undoubtedly ascribed these colors to the presence of his favorite black bile. He knew that bile was dark or green, just as he knew that it was yellow, and was likely only interested in varicose veins because they showed the dark blue and the green particularly well. He also probably knew of the connection of the hepatic vein with the inferior vena cava, and he thought that the bile was simply poured out of the liver through this channel and sank down into the lower extremities. This is interesting as showing how acute observation may be, directly that facts are sought to substantiate a belief, and this belief in the humors of the body was probably elevated in him into a sort of learned cult or religion. In all ages, human beings see what they desire to see, and according to their favorite theories.

Like his predecessors, the Greeks, Haly was a humoralist, and therefore ascribed almost all diseases to a faulty mixture of the humors of the body. Itchy and scaly diseases, for instance, were held to be caused by a mixture of the phlegm and the blood overloaded with gall. Other troubles were thought to be occasioned by the skin being too weak to get rid of the impurities of the body in people who ate bad food or food that gave rise to noxious juices, or in those who did not take warm baths. Haly speaks of the black bile, of the sharp yellow bile and the salty, phlegmatic mixture that mingles with the blood. He mentions the coarse, sticky phlegm that prevents the vapors from escaping. He also speaks of the good vapors. In fact, if Haly could be resurrected now, after ten centuries of life in the shades, he would not find so much difficulty in getting his clinical knowledge in touch with a modern laboratory worker. He would find that the bad vapor, carbon dioxid, and not the black bile, was the cause of the darkening of the veins, and he would quickly forget all about the green tint he had previously observed, and he would go away as elated as either you or I with this or any other explanation.

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NEGATIVE RESULTS WITH THE NINHYDRIN REACTION AS A TEST FOR AMINO- ACIDS IN THE SERUM OF NEPHRITICS AND OTHERS*

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PHILADELPHIA

The use by Abderhalden of "ninhydrin" (triketohydrindenhydrate) as an indicator in his test for pregnancy, and especially his experimental work with Lampe,¹ in which ninhydrin was used to demonstrate amino-acids and related bodies in the serum, suggested the possible application of the test to the serum of persons suffering from nephritis, the intoxications of pregnancy and other conditions characterized by so-called nitrogen retention. Although our knowledge of the minute amounts of amino-acids in the serum and Abderhalden's statement that ninhydrin fails to react with an amino-acid (Glycocoll) when the dilution is greater than 1 : 11,000 presaged failure, it was deemed advisable to give the test a trial, especially as the labor of the procedure could be greatly lessened by using serum filtrates prepared in connection with other work² going on in the laboratory at the same time. Serums were obtained chiefly from nephritics and pregnant women—a total of 47 serums—in the hope that occasionally one with severe intoxication might yield positive results. The first group included acute and chronic nephritis with and without edema, uremia or high blood-pressure; the second, normal pregnancy, eclampsia and vomiting of pregnancy. Positive results were not obtained. In every instance in which coagulable protein was entirely

* From the John Herr Musser Department of Research Medicine, University of Pennsylvania.

1. Abderhalden, E. and Lampe, A. E.: Weiterer Beitrag zur Kenntnis des Schicksals von in den Magendarmkanal eingeführten einzelnen Aminosäuren, Aminosäuregemischen, Peptonen und Proteinen, *Ztschr. f. physiol. Chem.*, 1912, lxxxI, 473. Abderhalden, E. and Schmidt, H.: Ueber die Verwendung von Triketohydrindenhydrat zum Nachweis von Eiweissstoffen und deren Abbaustufen, *Ztschr. f. physiol. Chem.*, 1911, lxxII, 37; Einige Beobachtungen und Versuche mit Triketohydrindenhydrat (Ruhemann), *Ztschr. f. physiol. Chem.*, 1913, lxxxv, 143.

2. Farr, C. B., and Austin, J. H.: The Total Non-Protein Nitrogen of the Blood in Nephritis, *Jour. Exper. Med.*, 1913, xvII, 228. Farr, C. B., and Williams, P. F.: The Total Non-Protein Nitrogen of the Blood in Pregnancy and Eclampsia, *Am. Jour. Med. Sc.*, 1913, cxvI, in press.

removed the test was, as one would expect it to be, negative.

The technic was to remove the coagulable protein in 10 c.c. of serum by the method of Folin (absolute methyl alcohol and zinc chlorid), evaporate the filtrate to dryness and take up the residue in distilled water. This filtrate was then made faintly acid with acetic acid and boiled and filtered to remove any trace of coagulable protein. To the resulting filtrate, after neutralization, was applied the ninhydrin test as used by Abderhalden, that is, to 10 c.c. of filtrate, 0.2 c.c. of a 1 per cent. watery solution of ninhydrin was added and the mixture boiled for one minute.

A few tests were made also with ascitic fluid, but with like negative results.

In connection with this report of negative results, the usual apology is offered; it may save someone unnecessary labor.

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PASSAGE THROUGH GASTRO-ENTERIC TRACT OF BLACK-HEADED PIN, WITHOUT SYMPTOM

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Elizabeth M., aged 3 years and 10 months, swallowed a black-headed pin. I was consulted two days later. There being no untoward symptom, pultaceous food was advised, and close watch was kept of the stools. On the ninth day following its entry by the mouth, the pin, measuring 40 mm. in length, and lightly coated with mucus over the sharp end, passed by the anus. No inconvenience was experienced at the time and there has been none since.

HEPATIC ABSCESS (NON-AMEBIC) AND GASTRO- INTESTINAL MYIASIS

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History.—The patient, Private P., was a soldier, aged 24. Family and previous history were negative, so far as referable to present illness. After several months' field service in Jolo, P. I., the patient was admitted to hospital at Angur Barracks, Jolo, P. I. Several days after admission he was transferred with his company to Ludlow Barracks, P. I., where he first came to my attention, April 5, 1913. Examination indicated tropical hepatic abscess, right lobe. Blood was positive for *Plasmodium falciparum*.

Treatment and Course.—The condition of this patient at the first examination (April 6, 1913) was critical; hence operation was postponed. Intramuscular injections of quinin were administered daily for two weeks. The patient improved slightly under quinin. Prostration increased, however, because of anorexia and hyperemesis.

Operation and Result.—After several days of rectal nourishment and stimulation, the patient was operated on, April 18, 1913, with evacuation of pus from right lobe of liver and perihepatic tissues. Postoperative progress showed improvement for several days and the temperature became normal, but gastric irritation persisted despite proctoclysis and rectal alimentation. The wound was closed (except for drainage sinus) April 23, 1913. April 24, 1913, the wound was reopened through the sinus and the right hepatic area was explored.

While the patient was under primary anesthesia, gastric lavage was practiced with a view to amelioration of hiccup and anorexia. The return contained between twenty and thirty living larvae of *Musca domestica*. The patient died April 25, 1913.

Necropsy.—Larvae were absent in the stomach, although the gastric mucosa was hyperemic and studded with hemorrhagic erosions. The entire right lobe of the liver had been

destroyed and the cavity contained pus negative for entameba. Repeated examinations of feces during life had been negative for entameba. Perigastric and perihepatic recently formed adhesions were found at necropsy. No larvae were found in tissues or organs.

Inquiry as to camp conditions while the company to which this man belonged was at Jolo shows that flies were a pest and an anti-fly campaign had been inaugurated.

A case of intestinal myiasis was accidentally encountered at this hospital prior to observation of the case reported. The patient complained of attacks of pain resembling enteralgia (without febrile reaction) at irregular intervals. Attacks seemed not to have been influenced by dietary indiscretions. The larvae were finally observed grossly in freshly passed feces. Dietetic treatment and intestinal antiseptics by mouth and by rectal irrigation have apparently destroyed and evacuated all larvae. Periodic attacks have disappeared and no larvae have since been passed in the feces.

Therapeutics

TYPHOID FEVER

It is not necessary to mention that typhoid-fever bacilli enter the body by the gastro-intestinal tract, except to reiterate the many times repeated caution against uncooked infected food, milk, water or other beverage, contamination of these substances by flies (which may be carriers of these germs), and even against cleaning the teeth or bathing with infected water. Vegetables that are not to be cooked, such as lettuce, celery and radishes, may be infected by washing in impure water. Many of these latter sources of infection are readily forgotten or overlooked. Doubtless a certain number of these bacilli entering a perfectly healthy stomach may be there killed, but if the gastric juice is not in perfect condition, or if protective surroundings of the bacilli have prevented the gastric juice causing their death, or if large numbers are taken, they will reach the intestine. They here find in the alkaline half-digested food splendid mediums for their growth.

It is stated that these bacilli produce a toxin which more or less irritates and perhaps injures the mucous membrane of portions of the intestine, such injury allowing more readily the bacilli to enter the solitary glands and Peyer's patches. Sooner or later these bacilli reach the blood-stream through the lymph channels and may be there found, showing that typhoid fever is a bacille-mia. The result, besides the local injuries and inflammation in the intestines, is a more or less high, continued fever, an enlarged spleen, more or less toxemia from the soluble toxins produced, more or less symptoms from putrefactive conditions that occur in the intestine, and one or more of the various complications that can occur from this serious disease.

PROPHYLAXIS

One of the greatest national sanitary questions to-day is the prevention of typhoid fever. Typhoid fever does not occur except by the carelessness of someone, or by the omission of some precautionary measures by someone. Every typhoid patient is a danger, not merely until he has recovered, but until he is not a carrier of typhoid bacilli.

It is not necessary here to repeat again the sanitary and hygienic rules and regulations for the personal care of a typhoid patient, which are generally well understood by physicians and nurses. The fresh air and sunlight that he needs, the absolute cleanliness, the care of