

In the majority the subjective symptoms can be made to disappear for at least a considerable time. For the older patients, especially for those having disease of long duration, we feel that massage will probably have to be used now and then, that they may be kept comfortable. They are much better for a few days immediately after massage than they are a little time later. Even if these patients are benefited only temporarily, the treatment is well worth while.

In the opinion of the writers it is probable that a certain number of the cases of impotence and many of sterility are due to vesiculitis; this gives its treatment a wider importance than the mere remedying of the discomfort the patients suffer.

We would strongly advise the examination by rectum of all patients with urethral disease, recent or of long duration, in which the disease is not progressing favorably, particularly of those showing the so-called neurasthenic symptoms.

As the writers have attempted merely to give their own clinical experience with seminal vesiculitis, they purposely have omitted the subjects of etiology and pathology, and have not attempted to compare their observations with the experience of others.

IODOPHILIA.¹

BY THEODORE DUNHAM, M.D., NEW YORK.

I HAVE ventured to coin this word to designate a reaction which occurs in the blood under certain pathological conditions. I bring this subject before you because this reaction has been a definite help to me in diagnosis, and I feel that it deserves a more extended use than it has yet received. The cases in which it gives aid are those of doubtful suppuration and doubtful pneumonia. We are not infrequently confronted with cases of appendicitis where an additional aid to the early recognition of pus would be of the greatest value; and there are other cases of deep-seated trouble with doubtful physical signs where an additional means of throwing light on the presence or absence of pus would be a great help. Pneumonia is often difficult of recognition during the first few days after the onset. An additional aid in diagnosing it during this stage would be of real value.

Let me say a word about the technique of the reaction and then speak of its clinical bearings.

The technique is very simple. It consists in the staining and examination of a spontaneously dried blood smear. The smear need not be stained at once, but will be good for use several weeks at least after making. It is thus possible to make the smear at the bedside and send it to the laboratory for staining and examination.

Only one solution is required, and this is made up as follows: Three parts of potassium iodide are dissolved in one hundred parts of water. In this is dissolved one part of iodine. The result-

ing solution is thickened to a syrupy consistency by the addition of lumps of gum arabic and occasional shaking until they are dissolved. The blood smear is mounted in a drop of this syrup and a bit of filter paper placed at an edge of the cover glass to absorb the excess of fluid. The specimen is then ready for examination by an oil immersion lens. When blood is treated in this way the lymphocytes and the eosinophiles are not affected by the stain. In normal blood the polymorphonuclear neutrophils are either unaffected or their protoplasm is tinged a faint pinkish or brownish color. Under some pathological conditions, however, the protoplasm of a certain proportion of the polymorphonuclear neutrophils takes on a reddish-brown coloration. The mode of coloration differs in different leucocytes; in some it is a diffuse stain; in some a granular network; while in others the color is confined to large or small refractive granules, varying in tint from a light pink to a dark red. Where one or more such leucocytes can be found in a search of a few minutes we have the condition to which, for the sake of brevity, I have ventured to give the name "iodophilia."

It is apparently always present in progressive suppurations and in progressive pneumonias. It may also occur in a few other diseases, but they are fortunately easy of recognition in other ways and not to be confounded with abscess or pneumonia. I will refer to them later. First, let us consider the iodophilia of acute suppuration. The intensity of the reaction is said by other observers to be closely related to the intensity of the process, and I have found this to be true in the cases I have examined. Small abscesses will, however, if the process be active, give a distinct reaction. In cases of so-called tubercular abscess the reaction is absent. Abscesses caused by the germs of acute suppuration, but which are well walled off and have assumed an indolent course, rarely give the reaction. If, however, the process lights up again, the iodine reaction is said to return. Goldberger and Weiss, from an examination of a considerable number of other diseases as well as of abscess, reach the conclusion that a distinct intracellular iodine reaction, even if made out in only a few leucocytes, warrants the conclusion that there is present a progressive suppurative process. In reaching this conclusion, of course the few other lesions which give rise to iodophilia must be excluded.

I shall not weary you with details of all the suppurative cases in which I have tested for iodophilia. Suffice it to say that I have found it in every case where the abscess was of any size and the process of any virulence. I will speak in detail of only 3 cases in which the finding of iodophilia was an aid in reaching a correct diagnosis.

D. K., age seven and one-half months, was admitted to the Babies' Wards of the Post-Graduate Hospital with an adenitis of the neck. No previous history was obtained. The process was not acute, and at first I thought the gland tubercular. The leucocytes were 19,700. Iodophilia was very

¹ Read before the Warren Club, of Boston, March 28, 1901.

striking in some leucocytes. At operation I found the gland had broken posteriorly, and my finger passed in the pus cavity between the spine and the upper part of the trachea. The pus showed streptococci.

A. M., a girl of thirteen years, was admitted to the service of Dr. Joseph D. Bryant at Bellevue Hospital, suffering from a not very acute appendicitis. She had had right iliac pain for five days. The leucocytes were only 12,200. The iodine test showed diffuse browning of many leucocytes, and a few contained brilliant iodophile granules. Here the leucocytosis was low, but the iodine reaction pointed to pus. The case was operated upon three hours later, and a considerable amount of pus was found.

M. K., a boy five years old, was admitted to the Babies' Wards with a history of excellent health until three months prior to admission. His illness began with general misery, soon followed by a marked jaundice. The jaundice lasted several weeks. When it disappeared he was still sick and had fever. For a time he was treated as a typhoid. Then his disease was diagnosed as appendicitis. Finally a tumefaction was discovered in the region of the gall bladder. When I first saw him he was in a rather low condition, running a very erratic temperature which fluctuated between 99° and 105°. In the neighborhood of the gall bladder was a tumor, very hard, rather tender, and just visible to the eye. I found the leucocytes 21,800. A blood smear showed a number of iodophile leucocytes. On opening the belly I found what the iodophilia would indicate: an abscess. It was the size of a pigeon's egg, in the substance of the liver near its margin, and about three-quarters of an inch from the surface. The pus gave a pure culture of *staphylococcus pyogenes aureus*.

In the 3 foregoing cases the presence of iodophilia helped either to make or clinch the diagnosis.

Let me now speak of the relation of iodophilia to pneumonia. Other observers say that the iodine reaction occurs constantly in pneumonia. I have found this to be true in the cases which I have examined. The reaction would not be of great value in pneumonia if it were present only when consolidation was so far advanced as to give a typical picture of the disease, for then the usual diagnostic signs are sufficient. But in 2 cases where I examined the blood at an early stage, before physical or other signs were specially suggestive of pneumonia, I found a well-marked iodophilia. This early appearance of iodophilia in pneumonia I have not seen referred to by others, and know of it only from the two instances where I looked for it. If it proves to be uniformly present soon after the onset, iodophilia will be one of the earliest diagnostic signs of pneumonia.

I will cite 3 cases in which I had failed to diagnose pneumonia prior to finding iodophilia, but where a pneumonia was subsequently proved to exist.

S. Di M., age forty-seven days, was admitted to my service at the Babies' Wards in a moribund condition. The left femur was the site of an ununited fracture which had probably occurred at birth. The child had been artificially fed and poorly cared for. Respiration was feeble. I could make out nothing abnormal in the lungs. The blood showed iodophilia. At the autopsy there was found a bronchopneumonia of the left lung.

E. K. D., age forty years, was taken suddenly with chilliness, intense facial pain, sore throat, and a temperature of 102.5°, apparently an attack of grippe. In the evening of the second day his temperature was 104.3°, and Dr. Janeway, who saw him in consultation with me, found a suspicion of râles in the right lower lobe. In the morning of the third day I found as light pleuritic friction at one spot over the right lower lobe. At noon I examined the blood for the first time. There was a leucocytosis of 27,600 and iodophilia was present. Later in the afternoon Dr. Janeway found the signs of a coming pneumonia of the right lower lobe. That night there was rusty expectoration, and the sputum contained pneumococci. Solidification progressed.

C. T., a boy age three years, was in my service at the Babies' Wards under treatment for stricture of the œsophagus. His general vitality was low, but he was up and about the ward. One evening his temperature shot up to 105° without other noteworthy symptoms. The next morning it was 104°, and in the afternoon again 105°, with the pulse 180 and the respiration 38. Examination of the chest was negative. I found a leucocytosis of 55,800 and a well-marked iodophilia. On the strength of these findings I suspected a beginning pneumonia. A day and a half after I had found the iodophilia, signs of partial consolidation showed in one upper lobe. He ran a regular course of lobar pneumonia, the fever continuing high for five days.

In these 3 cases the finding of iodophilia was a help in diagnosing the presence of pneumonia. Two of the cases showed it to be an early sign.

As I have already said, certain diseases must be eliminated from the diagnosis before one concludes that iodophilia implies the presence of pus or pneumonia. Hofbauer at Neusser's clinic in Vienna found that iodophilia occurred in certain grave blood diseases. In 18 cases of chlorosis he failed to find it. In 18 cases of secondary anemia he found it in 2, but one of these was complicated by pyothorax and the other by gonorrheal adnexa, and its presence was probably due to these complications. But in really grave anemias, as that associated with cancer of the stomach, severe chronic intoxications, etc., where the blood picture approached that of pernicious anemia, he regularly found a greater or less number of iodophile leucocytes in the 7 such cases he examined. In advanced pernicious anemia and in leukemia he also found it. I found it very marked in the one case of leukemia which I have examined in this way.

As iodophilia is a natural accompaniment of these diseases, in them its presence throws no light on the existence of pus or pneumonia. During an examination with the iodine test these grave blood diseases would surely be recognized. With their elimination, the finding of iodophilia points to acute suppuration or to pneumonia.

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CONTRIBUTIONS FROM THE LONG ISLAND HOSPITAL, BOSTON HARBOR.

CYSTIC TUMOR OF MEDIAN NERVE; OPERATION: RESTORATION OF FUNCTION.

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A WOMAN, eighteen years old, was admitted to the Long Island Hospital November 15, 1900, said to be suffering from syphilis. The history dated back four months, and was in substance as follows: An eruption on the chest causing much itching, and a swelling at the right elbow, just above the joint, which was increasing in size and tender.

Examination showed a freely movable tumor at the inner edge of the biceps muscle on the right forearm, about 5 cm. above the joint.

It was about the size of a chestnut. Moving it about caused tingling down the forearm and into the hand through the distribution of the median nerve, in which there was also loss of sensation to touch and pain. There was likewise considerable paralysis of motion. A diagnosis of tenia versicolor of the chest was made, and the swelling was thought to be a tumor of the median nerve. Syphilis was ruled out.

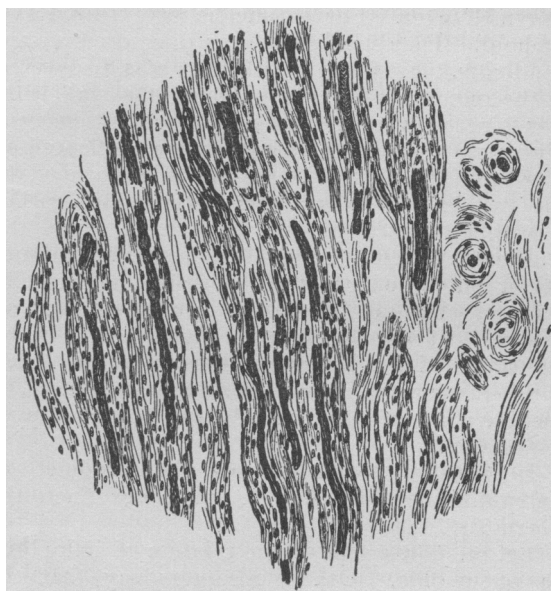
Operation showed the following condition: The median nerve was enlarged to a fusiform-shaped tumor 4 cm. long by 1.75 cm. wide. The fibres were separated, and between them and in the center of the tumor was a clear, colorless fluid somewhat thicker than water. Tearing the fibres apart, the fluid easily escaped, leaving the nerve slightly enlarged and edematous, but otherwise apparently normal. A small piece of the nerve was removed for examination and the wound closed.

It healed readily, and there was considerable pain in the arm for several days following the operation. Ten weeks after operation there was no return of the tumor, no pain or sensory disturbance, and, excepting slight weakness in the arm, it appeared to be normal. The skin eruption disappeared upon application of local treatment.

Pathological examination.—Examination of a portion of the nerve excised showed macroscopically no changes. Sections stained by the Weigert hematoxylin method show a considerable separation of the individual fibres, a very marked thickening of the sheaths of Schwann, and an almost complete disappearance of myeline (see fig-

ure). The axones cannot be clearly distinguished in a section stained by Van Gieson's picric-acid-fuchsin solution. A nuclear stain (hematoxylin) shows a very considerable proliferation of cells of the connective tissue surrounding nerve fibres, but nowhere is a distinct new growth to be made out. The nerve, in general, presents the appearance of edema, with proliferation of connective tissue elements and degeneration of nerve fibres. It may be surmised that the pressure exerted on the nerve by the presence of the cystic tumor secondarily led to the intrinsic alterations of the individual nerve bundles.

The case is again interesting from the fact that the patient was sent to a physician previous to her admittance to the hospital, who pronounced the affection syphilis, because, as the patient stated, of the rash on the chest and an enlarged gland at her elbow. The relatives with whom the patient lived were told of her supposed condition, which resulted in her being sent away from home



in disgrace. The injustice of so openly declaring a case to be one of syphilis, without the most convincing evidence, is well illustrated here.

The patient was again seen May 27, 1901. The improvement following the operation has been continuous; she has gained 12 pounds in weight, and is able to use the affected arm for all purposes, noticing only a somewhat increased awkwardness in making finger movements. Gross strength is essentially unimpaired, and all movements of the hand and arm are possible. There is still considerable tenderness over the scar of the operation, and occasional radiating pain in the forearm, especially on exertion. Sensation is objectively impaired only in the terminal phalanges of the middle finger of the right hand, in which there is almost complete loss of the temperature, pain and tactile senses. Examination with galvanism shows a good reaction from the