following day was 100 degrees. The fourth day of his stay in the hospital his temperature was normal; the following day it rose to 100.6 degrees and on that day the blood examination showed benign tertian parasites and the following differential count:

Polymorphonuclear neutrophiles	77.0 per cent
Lymphocytes	10.4 per cent
Large Mononuclears	11.4 per cent
Transitionals	0.4 per cent
Eosinophiles	0.6 per cent
Basophiles	0.2 per cent
	<hr/> 100.0 per cent

CASE 5.—QUARTAN MALARIA.

Female, white, aged four years, was treated in the dispensary service of Dr. Samuel McC. Hamilton (No. 2235) for malaria.

Family history: Negative.

Previous history: The child was born in Naples and had come to the United States six weeks before she was first seen in the dispensary. She had had measles, whooping cough and what was called scarlet fever. With this disease the patient was sick for six weeks and she had had numerous attacks of fever since.

Present trouble: The patient complained of fever. She got a chill about 11 o'clock every third day which lasted for an hour. This was followed by fever which lasted about six hours, when the fever disappeared. During the attack of fever the child was yellowish. Upon making a physical examination the important points developed were that she had a sallow complexion and marked enlargement of the liver and spleen. Between the attacks of fever the child had a poor appetite and played but little. In the recumbent position the heart showed a well-marked late systolic murmur in the second and third interspaces, which was not heard in the upright position and which was not transmitted. The spleen extended two inches below the costal margin. The liver was palpable an inch and one-half below the costal margin. Examination of the blood made when the temperature was 104 degrees gave the following results:

Erythrocytes	6,700,000
Leukocytes	5,920
Ratio	1—1.131
Hemoglobin, per cent	68
Color Index	0.50
Differential count	
Polymorphonuclear neutrophiles	50.6 per cent
Lymphocytes	27.4 per cent
Large Mononuclears	19.4 per cent
Transitionals	0.8 per cent
Eosinophiles	1.2 per cent
Basophiles	0.4 per cent
Myelocytes	0.2 per cent
	<hr/> 100.0 per cent

In counting 500 leukocytes, 125 medium sized quartan rings were found.

CASE 6.—LATENT MALARIA.

Female, black, aged 28 years, occupation dressmaker, a native of Jamaica, was admitted to the hospital (14788) in the service of Dr. W. M. Sweet, with a diagnosis of cyclitis.

Family history: Negative.

Previous history: Two years before coming to the United States from Jamaica, while she was a resident of the island of Jamaica, she had malaria, but did not know what variety.

Present trouble: The patient thought she caught cold at the time of the earthquake in Jamaica. She complained of pain in the left eye, headache and fever. About two weeks after the beginning of the pain a film formed over the eye which obscured her vision. She frequently complained of backache. The eyeball was enucleated under aseptic conditions during her stay in the hospital. The urine was amber in color; acid in reaction; 1.024 in specific gravity; presented a moderate amount of sediment composed of leukocytes, uric acid crystals and amorphous urates. There was no albumen and no glucose. The feces were examined and one ascaris lumbricoides ovum was found. The blood examination gave the following result:

Erythrocytes	3,840,000
Leukocytes	7,600
Ratio	1—505
Hemoglobin, per cent	80
Color index	1.04
Differential count	
Polymorphonuclear neutrophiles	64.6 per cent
Lymphocytes	11.8 per cent

Large Mononuclears	17.4 per cent
Transitionals	4.0 per cent
Eosinophiles	2.2 per cent
	100.0 per cent

In counting 500 leukocytes, one cell, resembling a partially degenerated gametocyte, was seen.

The patient's temperature while in the hospital did not reach 100 degrees at any time.

In this case the fact that the patient was a native of Jamaica and had been in this country but a short time when she was admitted to the hospital for a distinct ophthalmological

condition rendered the blood examination of interest. The examination showed a moderate reduction of the red cells, a slight reduction in the number of leukocytes, a high color index and a high large mononuclear percentage (17.4): During the enumeration of 500 leukocytes one cell resembling a partially degenerated gametocyte was seen. It would appear that this is a case of latent malaria, and it would also appear that under favorable conditions this patient might develop an acute attack of malarial fever of some kind.

(TO BE CONTINUED.)

PAIN IN ABDOMINAL DISEASE.

By WILLIAM M. HARSHA, M.D.,
Chicago, Ill.

Pain as a symptom in abdominal disease has increased in importance since surgery has shown the evolution of pathological conditions. It is so common, and appears in such a great variety of conditions, both grave and trivial, that it is likely to receive too little attention in a given case.

Being subjective it varies with the different nerve states of the individual, as in rest or fatigue, febrile conditions, anemia or general debility, and in different persons in similar conditions of health owing to their individual susceptibilities.

Sometimes pain is present with no appreciable pathology and absent in grave lesions, e. g., an indigestion may be more painful than cancer of the stomach or tuberculosis of the peritoneum. As a rule, however, the character and severity of the pain bear a rather definite relation to the gravity of the lesion. As examples may be mentioned the very great prostrating pains due to acute perforations of the stomach, gall bladder, intestine, appendix or Fallopian tubes.

To be properly interpreted a most careful history is necessary, as pain must be considered in relation to other factors in a given

case, and without these loses its chief importance.

The time relation is most valuable. As an illustration may be mentioned the rather characteristic sudden initial pains of acute appendicitis, which every alert physician now regards as an indication to search for a tender point, and be on the lookout for the other classical symptoms in their proper order. And yet it is within the memory of most of us, perhaps, that these same initial pains conveyed no definite idea of the associated pathology.

The relation of pain to taking food is also of great value, especially in duodenal or gastric ulcer or the various stenoses, benign or malignant. The relation to body movement or position, to exertion, straining, coughing or sneezing are all to be considered. Also any association with vomiting, constipation, peristalsis, distention, or jaundice must be duly considered.

The direction and extent of painful radiations, and the association with hyperaesthesia, local tenderness and muscular rigidity are of the greatest importance both as indications of the site and gravity of the lesion.

The arm pains in angina pectoris, the shoulder or upward radiations in gall-bladder disease, and the downward forward and testicular pains in nephritic colic are well known examples.

We may have the greatest variety of painful sensations in the same gross lesion, as illustrated by the dull ache, acute burning or colic or the terrific pain with collapse of (perforated) gastric or duodenal ulcer.

The pain of abdominal disease may be either spontaneous or elicited by pressure, body movement or position, and may be influenced by psychical, thermic, mechanical or chemical means, all of which may be utilized on occasion to aid in exactness of diagnosis. Therapeutic agents again may aid us, as for example the use of alkalies or cocaine in supposed gastric ulcer, or the iodides in syphilitic perihepatitis, or, quite as important, the use of cathartics in impactions.

The general law obtains that diseased viscera cause pain at or near their various sites, but there are many exceptions, which lend importance to the reflex or referred pains. This applies to both spontaneous and elicited forms. In most visceral lesions there is a disturbance manifested variously by pain, tenderness, hyperaesthesia or muscular rigidity of certain areas of the external or protective portions of the body. Hilton (Rest and Pain) called attention clinically to the protective function of the muscles in joint disease, and later the mechanism has been shown to be a reflex by other investigators.

Pottenger, of California, has recently shown the motor reflex in diseases of the lung and pleura. Sensory reflex is also recognized in both conditions named. This exteriorization of pain, hyperaesthesia or rigidity as a reflex may be of great aid in diagnosis or may mislead one if the fact of the reflex is ignored or the nerve supply is not understood. Clinically increased importance attaches to the reflexes both dorsal and abdominal as aids to more accurate diagnosis.

Reasoning from the demonstration of Hal-ler, Harvey, Lennander and others, that the viscera are in health insensitive to ordinary irritative stimuli, and incapable of accurate localization of painful sensations, and from the exalted sensory and motor function of the protective portions of the body, e. g., the abdominal wall, Mackenzie (Symptoms and Their Interpretation) ascribes nearly all the pain in visceral disease to the reflexes, and ascribes the tendency in many visceral lesions to produce pain referred to the epigastrium or other median portion of the abdomen to the fact that the spinal nerves abundant in skin, muscular and periperitoneal fascial layers of the abdomen have their termini toward the middle line.

The involvement of the solar plexus, of course, accounts in a general way for the more central abdominal pain in various visceral lesions.

On the theory that the pain in visceral disease is largely reflex we can best account for the enlarged area of pain, rigidity, tenderness and hyperaesthesia occurring in fulminant cases.

Sherrington (Integrative Action of the Nervous System), says: "That in spinal reflexes, increase of the intensity of the exciting stimulus causes increase in the number of motor neurones excited is clearly shown by the wider musculature seen to be engaged as the reflex irradiates under intenser stimulation."

Probably the most severe attacks of abdominal pain are due to the various acute perforations, e. g., intestinal gall-bladder or tubal. These are associated with wide areas of pain, hyperaesthesia and muscular rigidity; in fact, the whole abdomen is seemingly involved while the lesion may be limited to a square inch or two in extent.

In cases with broad radiation of pain the behavior of the reflexes under anesthetics or analgesics may aid us in locating the site of disease, as clinical experience seems to show

that the marginal pains are the first to disappear under narcotic remedies.

Sherrington (p. 80, as above), says: "Reflexes are nevertheless among the earliest reactions to alter or fail under asphyxial conditions," and "again the dosage of chloroform or ether required to depress and abolish a nerve trunk conduction is much greater than is required to depress or abolish the cerebrospinal reflexes."

Dr. J. H. Keay in his work on the medical treatment of gall stones (quoted by Mackenzie), refers to this observation and gives his own experience with chloroform during an attack of gall-stone colic: "Give a whiff of chloroform, not enough to produce unconsciousness and the distant referred pains disappear, their mode of disappearance being very interesting to any one cool enough to observe it, and there remains only subdued pain in the region of the right hypochondrium, a spot so small that one could cover it with the tips of one or two fingers."

In a few cases I have noted similar limitation of pain in abdominal lesions exciting broad radiations by opiates, and although one cannot generalize from a few cases, I believe we can in some of these urgent cases arrive at a localization in this way.

While it is generally poor practice to use opiates in cases with doubtful diagnosis, I believe after carefully noting the character and severity of the pain as well as the areas involved and the extent of the radiations, we may be able in many cases to locate the trouble by use of carefully administered anesthetics or opiates, watching the result in abolishing the pains. This applies, of course, to those prostrating acute attacks in which there is urgent need of prompt diagnosis and relief.

There is another class of cases where we should sometimes wish to revive a latent pain for purposes of localization. Every surgeon is called upon to operate cases referred to him between attacks; e. g., appendicitis, gall

stones, etc. It has been noted that various conditions invite recurrence of pain. In chronic appendicitis or salpingitis, for instance, exercise or fatigue may bring out the pain. Cathartics may provoke anew the pains of appendicitis, and cold excite peristalsis in stenoses. It is assumed that a sufferer from one of these chronic or recurring diseases has a sensitized or irritable nerve tract, or a point of least resistance to pain. In these conditions a shock or fright will sometimes call attention to these latent pains.

Reasoning from the fact that a moderate shock or fright will emphasize a vanishing or latent pain, I have tried the faradic current in suitable cases and in a few instances I have been able more definitely to locate the trouble. The experience is too limited to make generalization, but slight as it is I am encouraged to pursue it on occasion.

It is not intended here to consider in detail different lesions with their characteristic pain. A great deal has been written on this phase of the subject. The result of the work to date has been a more prompt recognition of appendicitis, gall stones, ulcerations, intestinal obstructions, perforations and other dangerous conditions, and a great saving of life by early operation.

It should be emphasized that a great majority of abdominal diseases, especially of the more acute variety, are first heralded by pain rather than by change of size, position or other physical conditions.

It is recognized by surgeons generally, I think, that in the bright lexicon of abdominal diagnosis there is still nothing so uncertain as a sure thing. If we may not always locate a lesion with exactness we can at least often gauge the urgency in a given case by the character and severity of pain and call to our aid such means as are available.

Bearing in mind the reflexes and the diseases of the nervous system we may avoid abdominal section in early thoracic inflammation or diseases of spine or cord or in hysteria.

Taking account of the value of pain associated with local distensions and peristalsis, or the absence of peristalsis, we may locate a stenosis or other forms of obstruction, calling to our aid submerged palpation (or palpation in the bath), we may detect induration otherwise not palpable.

Observing the time relation of pain to other symptoms, the effect of food, drugs (cathartics included), cold, fatigue, movement, position, jarring, fist percussion, anesthetics, opiates or electric stimulation we should be able to increase our percentage of correct diagnosis, "a consummation devoutly to be wished."

In abdominal diagnosis it is essential that the physician or surgeon should know all the pathological conditions that may cause pain, and he should be familiar with the associated factors that may aid in its interpretation.

The safety of abdominal section may have caused us to relax our efforts at exact diagnosis. If all operations were reported, we should find a rather large per cent of mistakes. It has happened many times that laparotomy has been done for appendicitis when a movable kidney, a spine or nerve lesion, pyelonephritis, ureteral stone, typhoid fever, diaphragmatic pleurisy, salpingitis, or other conditions were present. Deaver quotes Monihan in report of forty-nine cases of perforated duodenal ulcer operated upon, in eighteen of which a diagnosis of appendicitis was made.

Age, sex, occupation, or previous history may give valuable aid. In childhood intestinal troubles prevail, and we are likely to encounter appendicitis, intussusception, or tuberculosis. In advanced age malignant disease. In women the pelvic organs are frequent sites of disease, while gall-stones are more frequent. In younger women with anaemia and indigestion we may suspect ulcer of the stomach.

Lead colic may simulate organic disease.

A history of indigestion, with vague epigastric pain, may aid in determining a perforation of duodenum, or stomach, coming on suddenly as a sequel, and a record of previous inflammatory trouble in the abdomen may explain a sudden intestinal obstruction.

Among the less frequent conditions may be mentioned the meteorism with abdominal pain, resulting from the embarrassed portal circulation in cardiac insufficiency. I have recently seen a case of this kind where the pain was so pronounced and distension so great that abdominal disease or tumor was suspected by one physician.

In a broad survey, we should consider the possibility of disease of the central nervous system, such as tabes, herpes or hysteria, diseases of the spine, as caries, or spondylitis deformans. We should also consider the possibility of disease of the thorax, referring the pain and rigidity to the abdomen, or of one kidney, referring the pain from stone to the opposite side. Excluding pain from cord, spine or reflex causes, we should remember that diseased viscera may be at the normal site, displaced especially by prolapse, or transposed. We should be awake to the urgency of pain of the first class, viz., the acute prostrating pain with collapse, such as the various perforations, acute hemorrhagic pancreatitis, or embolism of mesenteric vessels, watchful in pain of the second grade for the evolution of determining symptoms, such as appendicitis, gall-stones, or renal colic; while in the third, or subacute, recurring and more vague variety, we should apply such various tests as may aid us in working out a diagnosis. On the surgeon, perhaps, falls the burden of responsibility for exact diagnosis, as his operative experience should add to his knowledge, and to the surgeons of this country, especially to such men as Murphy, Deaver, Mayo and others, we owe largely the credit for the promptness with which abdominal diseases of the more acute varieties are now generally treated.

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Notice of Change in Editorship of The Southern Medical Journal

When we, the Editors and Staff, as well as owners of the SOUTHERN MEDICAL JOURNAL, established what we regarded as a strictly first-class monthly for the dissemination of original work of the high-class medical men of the South some years ago we did it with a patriotic desire to establish a journal worthy of this section of the country. In doing so we realized that in selecting our advertisements only from the ethical side of medicine that we could not hope nor did we expect or desire a money-making scheme.

It is with a great deal of pride that we announce to our friends throughout the country that the SOUTHERN MEDICAL JOURNAL had reached a point where it was self-sustaining, and this splendid condition of affairs was brought about without besmirching its pages with any questionable reading or advertisement matter. When Dr. Seale Harris, and Dr. H. A. Moody, of Mobile, Ala., than whom there are no higher class ethical gentlemen in

the profession in this country, as editors of the *Gulf States Journal of Medicine and Surgery*, which is the official organ of the Southern Medical Association, made us a proposition by which a consolidation of the two journals could be made without lowering the standard of excellency and with the full understanding that the high ideals so manifest in our journal should be the standard of the consolidated journal, feeling that in union there is strength, and that the Southern Medical Association, which is composed of high-class scientific Southern men, deserves the best, we, after due consideration, agreed to the consolidation.

It is with a great deal of pleasure that we announce that five of the strongest members of our staff will be associated in the work of the new journal, and that it will be published in Nashville, where we can more effectively assist in its growth and development, as well as to bespeak for it the patronage of this section of the South.

In retiring from the active management, the