syphilitic papule, induced me to diagnose the case as erythema multiforme.

The similarity of erythema multiforme to syphilis may be still more striking, as is illustrated by the following case:

CASE 5.—A florist, aged 24 entered the county hospital on January 6, 1904, with the following history:

History.—Two months previously, a sore the size of thumb nail appeared on the side of the prepuce, coming on 10 days after exposure to venereal infection. He was told by a physician that it was syphilitic and began taking mercury. Four days later, an enlargement of the inguinal glands appeared, followed by the appearance of red spots on the back of the neck. These subsequently spread rapidly over the body. He became hoarse, his mouth became sore, and the red spots over his body began to blister.

Examination.—The patient is a medium-sized, well-developed man. The skin almost all over the body was covered with a macular and papular eruption occupying large surfaces of face, neck, trunk and extremities. The upper part of the body was affected more than the lower. On the face, there were papules varying in size from a pea to a dime, brownish red, not much elevated and more macular than papular. On the external corners of the eye the papules were umbilicated and covered with light crusts. The neck presented large patches 1x1½ inches, each having darker color in center with detachment of epidermis above the spots. The chest showed still larger lesions, size from half-dollar to a dollar, running together in large patches presenting a variety of colors, the center was dark and livid, and covered with either a small vesicle or a thin crust. Around them there was a zone of vermilion color surrounded by a slight pink which gradually ran into healthy skin; each patch was raised about 1/16 inch above the healthy skin. The arms were affected more on the extensor surfaces, having similar lesions to those just described. The papules were smaller on the back of the hand; on the palms, the macules were the size of a pea, brownish in color and glistening from beneath the epidermis; the fingers were diffusely livid red. Here and there were a few vesicles. On the legs there were only a few disseminated papules, but the feet, especially the soles, were diffusely red and swollen, making it impossible for the patient to walk. The scrotum and penis were red and macerated. The penis showed much purulent secretion. The ears were livid and diffusely swollen. The lips were dry, and presented some ulcerations and fissures on the corners. In the oral cavity there were congestion and edema of the mucous membrane, plaques on the tonsils, and foul breath. There was generalized adenopathy.

In this case, in spite of the striking history, the existence of many symptoms of syphilis, the stomatitis, adenopathy, etc., I excluded syphilis because the typical element of secondary syphilis was absent and made a diagnosis of erythema multiforme because the symptoms of this disease, the main element of which is an erythema of the skin combined with an exudative process in the cutis, were marked.

The papule of erythema being exudative, disappears on pressure while the cellular infiltration of the syphilitic papule can not be pressed away. The color of erythema is red, shading to vermilion, with a livid spot in the center, while the papules in syphilis are dark, livid brown, with an atrophic white umbilication in the center. The surface of the papule in erythema is smooth, in syphilis scaly, and its size much smaller, more circular and circumscribed. Erythema multiforme may complicate syphilis, or may be the direct result of the syphilitic poison circulating in the vascular system, or of the mercurial treatment. Cases of this kind have been observed by a number of writers (Finger, Neuman, Danielson and others), and they have all come to the conclusion that there must be some connection between the two diseases, that syphilis may facilitate the ap-

pearance of erythema multiforme. This causal relation may have existed in Case 6. The patient may have been a syphilitic or the erythema may have been produced by the mercury which he had been taking for two months. The salient point was to ascertain whether the visible symptoms were those of syphilis, which was important for the treatment to be employed, and for the reasons mentioned I could answer this question in the negative. Salicylates internally and astringent applications externally reduced the manifestations of the disease in a very short time. When the patient left the hospital after two weeks, the red areas had almost completely faded, leaving only slightly pigmented spots. The swelling of the soles of the feet had disappeared and the patient could walk without pain; the lips were normal and the fissures had healed. Cases of this kind are not rare. Lau⁴ reported a case of relapsing erythema multiforme, which was mistaken for syphilis and the patient repeatedly treated with mercury in different institutions and bathing resorts, so that he consumed in all about 4 pounds of blue ointment.

CONCLUSIONS.

Summarizing these observations, I would formulate my conclusions as follows:

1. The elements of diagnosis in cutaneous syphilis have only an arbitrary value.
2. The element of time is an unreliable factor in the diagnosis of syphilis. It may happen that simple sores with consequent swelling of the glands will develop in intervals corresponding to the periods of syphilis.
3. The regionary lymphadenitis is not absolutely pathognomonic for syphilis. We may see adenitis of inguinal and cubital glands following infection of simple wounds which have the characteristics of syphilis, viz., they are indolent and indurated.
4. The ensemble of all syphilitic symptoms, in exceptional cases, may be closely imitated by non-specific dermatoses. The diagnosis of syphilis can be made with absolute certainty only when based on positive as well as on negative findings, that is when we not only find the characteristic elements of syphilis, but when we can with certainty exclude all other skin diseases which may appear under the similar symptoms.

100 State Street.

THE PRACTICAL SIGNIFICANCE OF CERTAIN COMMON SYMPTOMS IN THE UPPER ABDOMEN.

J. F. PERCY, M.D.

GALESBURG, ILL.

The upper and right hand corner of the abdomen is a field of present-day investigation which promises valuable returns for all efforts made to clear up its symptomatology. It has fallen to the lot of a new candidate for honors in the field of human diagnostic investigation to aid in this beneficent work, viz., the skilled operating surgeon. Surgery to-day, in the hands of the competent surgeon, bids fair to state definitely the reasons for the existence of the symptoms in the upper belly, long recognized by the internist. But neither the internist nor the pathologist, dealing, as they must, with things unseen within the abdomen of the living have even been in a position to point out their true pathology. This surgical investigator of living human pathology, it is hoped, will succeed in doing for us in

this region what he has been able to do in the lower belly and pelvis. The patients suffering from pathology in the liver and the gall bladder, the right half of the stomach, and the first portion of the duodenum are legion. True, there are other very important originators of pathology in the upper belly, viz., the pancreas and the right kidney; but my subject precludes more than the naming of these organs, because the task that I have set as the subject for this paper is "The Practical Significance of Certain Common Symptoms in the Upper Abdomen."

Of these, the first in importance is pain. Pain in the abdomen seldom indicates by its expressed location the point from which it originates. This fact has led some one to remark that the sympathetic nerve has no sense; meaning thereby that the point of pain indicated by the patient may have no reference to the pathologic entity which originates it. Ask the patient to indicate the point of greatest suffering, and in the majority the hand will move in an aimless way over the whole abdominal region. This is true regardless of the grade of severity, except possibly where the peritoneal involvement is slight. When the pain is severe, general muscular rigidity over the abdomen is the rule. When the lesion is only great enough to give a moderate degree of distress, the muscular rigidity is frequently limited to the region above the lesion. This point also is seldom accurately located by the patient. In the average chronic case not having an acute exacerbation, lesions about the gall bladder are less sensitive than those of the stomach. Lesions involving the pyloric third of the stomach and gall bladder can not well be differentiated by external manipulative methods alone. Although pressure applied over the lower costal arch on the right side, as pointed out by Eliot,¹ has been found very helpful in about two-thirds of the cases in which the symptoms pointed to inflammation in the region under discussion.

Eliot has shown that costal resistance is likely to be just as marked as is that of the muscles lower down, when covering an inflammatory process. This is especially true in abscess of the gall bladder and cholecystitis. This diagnostic aid has been found useful in my examinations of this class of cases for many years, as it has undoubtedly to others, both physicians and surgeons; but it remained for Eliot to point out and extend its use. I have found it especially helpful in the pain of the upper abdomen, in which appendicitis was one of the problems in the diagnosis. Pressure over the right lower costal arch, which does not elicit pain, will almost certainly exclude acute gall bladder trouble. It is also interesting to note the difference in costal resistance on the two sides, when the right upper belly is involved in an inflammatory process.

Light finger percussion, which elicits pain, is another valuable method of localizing active inflammatory foci in patients who are not over obese. An ulcer in the stomach or duodenum can often be located in this way, and, when combined with the subjective symptoms present in the case, valuable information is obtained. It might be said, in passing, what has probably been said a great many times, or, if not said certainly has always been understood by diagnosticians, that a good diagnostician is self-made, and that a not small part of his skill is so subtle as to defy language to express it. The most that can be said is that diagnosis is the use in this day of the facts worked out by many

observers, both clinical and laboratory, combined with the results obtained in the examination of many patients of one class. A combination of all these necessary and obtainable conditions will develop in the individual observer an educated instinct for diagnosis, which is invaluable.

Another source of pain is the distention caused by gas. Gas does not accumulate until the inflammatory condition, or its results, are great enough, as pointed out by Graham, to inhibit peristalsis. In this way can be explained one of the causes of the common symptom of distention in the upper belly, which makes the demand for the various antidyseptic remedies. The more serious the localized inflammation the less peristalsis; the less peristalsis the greater the distention and pain which results from it. If this localized condition go far enough to perforate and the patient recover, it is at the expense of the adhesions which maintain the local lessened peristalsis; and an acute case is converted into a chronic one.

So far I have referred only to the pain which may result from lesions in the stomach or the duodenum. But the same general symptoms may develop also from inflammatory conditions in the gall bladder, with or without gallstones. It is interesting to note the frequency with which the introduction of food or drink into this corner of the abdomen gives rise to pain, or at least an expression of distress, when any one of the organs in this corner is the subject of disease. Nature tries to keep the parts at rest by refusing to retain in the stomach either food, drink or medicines, and we have been very slow to comprehend the purpose of Nature in this particular.

Another source of pain in the upper abdomen is the contact of the gastric juice with an ulcer in either the stomach or duodenum. This pain is an interesting and characteristic symptom. It is not many years ago that some of us were calling the cases which came complaining of distress in the stomach when it was empty, neuralgia. We learned from our patients that the greatest relief from the pain was obtained by keeping small quantities of food in the stomach. There is probably such a disease entity as gastralgia, which is functional in origin; but we all now believe that in the vast majority of cases it is a symptom, where inflammatory change is the definite and underlying cause. An ulcer of the stomach or the duodenum, in contact with the acid gastric juice, will undoubtedly account for many of the symptoms of pain in the region of the abdomen under discussion. To quote from Graham, who also discusses contact of food on the ulcer, as follows:

Pain is due almost wholly to the irritant actions of the acids on the open ulcer, with the added element of spasm. The greater the quantity of liquid in the stomach and the higher the degree of acidity the more severe the pain. In other words, intensity of pain and degree of acidity run about parallel. The irritant action of the food as a cause of pain, by passage over the diseased area, can not enter into the question; because anything that diverts, dilutes, neutralizes or removes the acid liquid lessens or entirely relieves pain. Antacids, as a rule, quiet for a time and remove nothing; vomiting or irrigation of the stomach relieves by removing the offending acid; but no rough particles of food which could irritate are found.

Most of those who have written on this subject agree as to the frequency of the pain and formation of gas complained of by patients suffering from lesions in the stomach, duodenum and gall bladder. The next most frequent symptom mentioned is vomiting. Among

1. Medical Record, Feb. 6, 1904.

my own cases, however, nausea is more frequently spoken of than vomiting. Its relation to the injection of food, like that of pain, varies. Pain precedes it in the majority of cases, and it is the suffering from this that undoubtedly brings it on. If the ulcer is in the stomach and is so located as to be brought early into contact with the acid gastric juice, then the nausea or vomiting will be spoken of as occurring within an hour or two of taking food; sometimes the patient will tell us that the pain comes on at once. This is frequently due to gall-bladder inflammation, and is especially common if there are adhesions about the gall bladder. If the ulcer is duodenal, then four or even six hours may go before the nausea may develop. If the nausea comes on early and is followed by vomiting, the rejected food will be but partially, if at all, digested.

An important determining factor here is the size of the stomach. If this is greatly dilated and, therefore, unable to pass its contents into the small intestine, the patient may suffer for hours; and then by vomiting or by the stomach tube be relieved of a foul, sour-smelling mass of undigested food containing quantities of mucus. Food coming from the stomach in such a state will exclude its ever having reached the small gut. This should be borne in mind; because, although the undigested mass may be removed four or even six hours after being taken into the stomach, it is evident that the latter organ is physically incapable of putting it into the duodenum. If it had, it would be a pulqueous mass showing digestion; so that the degree of digestion is a clue as to its ever having reached the small bowel.

Another interesting fact, that perhaps may not properly be spoken of as a symptom, is that these patients in the first months or years of their suffering from disease located in these organs, seldom complain of loss of weight. Note, please, that I say in the first months or years. In the beginning the majority of them are able to maintain their bodily weight and frequently even to gain; but finally either the impaired nutrition long continued, or the infections which result from the solution of continuity in organs and tissues so richly supplied with lymphatics tells on the bodily weight, and they begin to fail. Recently I had a patient (cholecystitis) who had lost thirty pounds in three months, and who was still losing when he entered the hospital for operation. When this time comes in the history of one of these chronic sufferers, he always brings with him the suspicion of the probable beginning of a cancerous process, with all that awful word stands for.

Bleeding from ulcer of the stomach or duodenum has not, in my experience, been a prominent symptom except in the cases that have had a long history and are far advanced. Frequently they will tell you that years before they had a sudden and severe hemorrhage, but none since; and that practically they had not seen a well day since it occurred. But this failure, on the part of the patient, to note the occurrence of hemorrhage does not necessarily imply that it has not been present. Where laboratory methods are made a part of the investigation of this class, it has been found that a large percentage have blood in the stools; if in considerable amount, blood passing in this way may give the stools a meconium-like look, which is spoken of in the textbooks as tarry in character. Macroscopically, this same kind of stool can be produced by the infected bile which may be thrown into the bowel from a gall bladder, the subject of cholecystitis. In this latter class of cases

the hematin crystals, which are present in the former character of stool containing blood, will not be found, because of the origin of the color-giving substance in the gall bladder. It is interesting to note that the pain and distress which may accompany these cases of cholecystitis will usually lead to a symptomatic diagnosis of ulcer of the duodenum or the stomach. But the internist or surgeon who has seen many cases of ulcer of the stomach and duodenum will not find it necessary, in the great majority, to examine the stools for hematin crystals. Indeed, a careful history well taken will, in the majority, determine the diagnosis so that there need be no question as to the treatment which should be instituted.

These cases usually have periods in which there is an acute or subacute exacerbation of the trouble. At these times there is usually a moderate degree of elevation of the temperature from 100° F. to 101½° F. It rarely rises above this. The temperature curve not infrequently causes one to think of a possible tubercular element in explanation of its persistence. It reaches its maximum in the early afternoon, and gradually disappears toward evening. It differs, however, in that the 6 a. m. temperature is rarely found subnormal, except in the later stages of the condition, when general systemic exhaustion is pronounced. When this time comes, a subnormal temperature is the rule during the entire twenty-four hours. In addition to the temperature, at this time there is a moderate increase in all of the symptoms which have characterized the previous condition of the patient. There is a little more mental and physical depression; a little more localized distress in the upper right quadrant of the abdomen, especially after taking food, and in consequence of which there is a more pronounced fear of calling on the functions of the stomach, and with it the gall bladder. The patient is willing to drop his usual occupation, and, like a sick animal, seeks a warm and quiet place until the toxemia, which undoubtedly is at the bottom of his symptoms, is thrown off by whatever immunizing resistance he may possess. This is what I am pleased to call the gastric crisis of ulcer or cholecystitis. If resistance is good, the patient may recover his usual degree of health and drift along for weeks, months or years, until another paroxysm of the same kind and due to the same causes renders him inactive for about the same period as the previous attack. These cases are rarely diagnosed correctly, "biliousness" and "dyspepsia" being the words most frequently used as descriptive of the diagnosis, and on which the treatment is based. But there comes a time in the life history of a large number where even a correct diagnosis is futile, as far as preserving the life of the patient is concerned, because of alteration in the functioning tissues of the liver and pancreas, due to persistent infection. I believe, too, that further investigation will show that the results of this infection are chemical through the intervention of bacteria at work in ulcerating areas in the stomach, duodenum or gall bladder.

I have purposely avoided the consideration of other symptoms which will be called to mind as almost invariably present in the condition here discussed. Among these are pain radiating in the region of the right scapula or half way around the waist line on the right side; jaundice; the belching of sour gas; "cramp colic," which is a name descriptive of a condition frequently badly treated by the use of large doses of morphin. These patients are usually obstinately constipated. They

often complain bitterly of a bad taste in the mouth and are aware of a foul breath. The abdomen is, as a rule, distended with gas, showing the lessened peristalsis. They are often more hungry than otherwise; but food gives them neither comfort, satisfaction nor nutrition.

To generalize further: The individuals who may suffer or are suffering from symptoms referable to the upper abdomen range in age from the young adult to those advanced in years. As to previous symptoms, almost anything may be true, and nothing may be true. In the majority, however, two words are used which are descriptive only in a symptomatic way, and from this standpoint have had a long and useful career. I refer to "dyspepsia" and "biliousness," two words which we Americans have probably used as often as any two words in the language. Every patient suffering from a train of persistent symptoms heretofore known as dyspepsia has or has had either a gastric or duodenal ulcer, and is suffering from its sequel. Every patient suffering from recurrent attacks of so-called biliousness has either gallstones or a chronically inflamed gall bladder, which is another name for a chronically infected gall bladder. Unfortunately the class of patients which in one may seem to refer his symptoms to the stomach, in another practically the same symptoms will point to the gall bladder as the organ at fault. Fortunately, in the majority of cases, only one primary affection is present. Unfortunately it is not yet certainly known that the removal of the probable primary affection will permit of recovery from all its consequences. Frequently we find an infected gall bladder (cholecystitis) and with it the stomach is dilated. The primary condition under these circumstances will be difficult to determine, even when the abdomen is open. Such difficulties in diagnosis do not militate against the clinician, as these conditions are purely surgical, and the differentiation in many cases, as well as the proper treatment, must be made on the operating table.

Localized peritonitis and recent adhesions when the abdomen is open, will serve as infallible guides in the chronic cases with acute exacerbation; while enlarged lymphatics without adhesions will point the way in the more acute cases. Enlargement of lymphatic glands on the exterior of the body, as a result of infection of nearby tissue, has been noted for an indefinite period. Surgeons, however, were slow in recognizing the lymphatic enlargement found within the abdomen during exploratory operations as due to the same causes, viz., infections. Since the work of Poirier and those associated with him much has been done to advance our knowledge of the special anatomy of the lymphatics. Since their work appeared it has been a much simpler matter to determine the probable location of a lesion, the seat of persistent infection within the opened abdomen. The intra-abdominal lymphatics as carriers of infection open up an immense field for practical investigation as to the possibility of various recognized lesions, especially in the pancreas. Grossly we know what they can do in infections of the appendix, and as disseminators of cancer their work is all prevailing.

The writer has been interested for some years in the question of chronic infections of the liver from persistent gall bladder inflammations, with or without stones; and infections of this same organ as a result of ulcer of the stomach or duodenum. He early learned, in his gall bladder work especially, that a certain small percentage of his cases would die by slow degrees regardless of the favorableness of the primary results follow-

ing operation; and that a certain other class of non-operative cases will die, with exactly the same symptoms, and when brought to the postmortem table the pathologic findings are the same in both classes of cases. The following cases will, I think, illustrate this fact very well.

May 19, 1899, I operated on Miss C., aged 26, and removed a large number of varying sized so-called mulberry calculi. Previous to her operation she had suffered from the clinical symptoms of gallstones, together with a chronic cholecystitis. The liver was not enlarged, although notes of the case made at the time distinctly state that the whole liver region was tender to both percussion and pressure made over the costal cartilages. The case was drained and made a good operative recovery, as far as the time spent in the hospital was concerned and afterward while drainage persisted. But she never fully regained her health and finally died, twenty-two months after the operation, with every symptom of internal hemorrhage. Before this developed, however, she had the ordinary symptoms of a mild but persistent cholecystitis.

An autopsy was made by Drs. Jesse Rowe and J. C. Creel, both of Abingdon, Ill. They reported to me the findings as follows: About one quart of fresh clotted blood in the upper abdomen, the source of which was uncertain. A small cauliflower-like growth surrounded the common duct, which was patulous. Several soft stones were found in the gall bladder, which was fastened to the anterior abdominal wall. The inner surface of the gall bladder was inflamed and roughened, and when stretched over the finger looked like the surface of a nutmeg. The bile was thin and tarry in appearance. The liver was not enlarged, but yellow, with a gross appearance of fatty degeneration. Unfortunately, no specimens were preserved from either the liver or the growth about the common duct. At the time of the operation there was no appreciable growth about the common duct, and only the usual enlargement of the lymphatics, where sepsis is found in the gall bladder, was present.

My next fatal case came June 20, 1901, Mr. T., aged 77. He also had a history of chronic cholecystitis, with the ill health which it engenders extending over a period of years. On opening the abdomen, a greatly enlarged gall bladder was found capable of holding nearly a quart of fluid, together with a single stone weighing forty grains, which was loose in the cystic duct. The fluid which filled the gall bladder was thin, black, degenerated-looking bile, which characterizes this class of cases. The patient's liver was enlarged and tender to both manipulation and percussion. Not to burden this article with details of the postoperative history, I will merely say that this patient died in twenty-three days following operation, with a continuation of the symptoms of the same kind of infection which existed previous to his going onto the operating table. At autopsy this liver was found enlarged, and sections prepared for the microscope showed extensive fatty degeneration.

My next case of this class was Mrs. C., aged 61, operated on Oct. 2, 1901. This patient gave a history of severe gallstone attacks extending over a period of twenty-five or thirty years. She had the classical symptoms of stone in the common duct. At the operation I removed a stone from the common bile duct, the size of a pigeon's egg. Its upper or gall-bladder end was faceted in two places, showing the pressure of two additional stones; these were also removed. These two were equal in size to the first. This woman lived fifty days, dying, as the other two patients, in exactly the same way. On autopsy, this liver was found to have undergone the same fatty changes that characterized the liver in the case of Mr. T.

A few weeks ago I saw the following case: Mr. B., aged 54, but looking much older, had marked atheroma of the radial and temporal arteries, but has always been temperate as to the use of alcohol and tobacco. He has no specific history. He has suffered from chronic irritation of the stomach for twenty years and gives every symptom of chronic ulcer of the stomach, possibly now malignant. He asks relief be-

cause of what he calls his "chronic stomach trouble." Physical examination discloses a stomach with its lower border on a line with the umbilicus. Appendix tender; kidneys negative. The liver in this patient is very small, evidently markedly cirrhotic. Pressure over the costal arch elicits no pain on either side.

This case has not yet been brought to operation; but when he is, what will we find? I believe that it will be both a chronic ulcer of the stomach and a chronic cholecystitis. Further, I believe that the cirrhosis of his liver is the result of long-continued infection from his ulcer in the stomach, or the chronic inflammation of the gall bladder, or both. I believe also that Miss C., above mentioned, would have had the same kind of a cirrhotic liver as is now present in Mr. B. could she have lived long enough, i. e., had a smaller dose of a less virulent infection than she evidently did have, and had not the probable malignant condition found on autopsy intervened. As long as we have ulcer in the stomach or duodenum or an infected gall bladder to furnish a long-continued infection through the lymphatics to the liver and pancreas, we are sure to have occasionally a case which will die following operative procedures in the upper abdomen, regardless of the skill with which such operative procedures are conceived or by whom carried out.

This phase of the question of chronic symptoms in the upper abdomen as indicative of the pathology that may develop there is, I believe, most important, and so far as I know has not been thoroughly worked out, except possibly by Quincke, quoted by Eisendrath,² as follows:

The clinical picture of the cholecystitis usually predominates, so that the cholangitis, with its grave influences on the liver parenchyma, is marked. The course of a cholangitis seems to be most acute with virulent colon bacilli; more chronic with staphylococci and streptococci.

These writers (Eisendrath, and Quincke, whom he quotes) make no mention of the possibility that these infections may be the cause of cirrhosis of the liver in an individual otherwise free from the usual history that precedes the average case of this disease, viz., chronic alcoholism. Eisendrath's paper,² is a valuable contribution to the literature of infections of the liver following acute cholecystitis.

Closely related to the above is the great question of cancer of the stomach. If overlooked, infections can produce such dire results; and, as we are slowly coming to realize that they can, what shall we say of this most terrorizing and hopeless condition of them all? You and I know that at the present day, when the diagnosis is made, the treatment in the great majority is by abandonment of the patient to his fate. We have, as yet, no means of making an early diagnosis, either in cholecystitis, cholangitis or in cancer of the stomach. But we have, as I believe I have pointed out above, symptoms which can be very nearly interpreted aright when it comes to these other conditions which are so common in the upper abdomen, certainly interpreted near enough to know that the only hope of permanent cure is by the aid of surgery. When this time comes, as it surely is coming, cancer will be diagnosed in its earliest stages when the surgical treatment will take into consideration the distribution of the regional lymphatics, which in this situation, as pointed out by Cuneo, are the most favorably situated of any in the body for permitting a radical cure. Thus in curing conditions in the upper belly, which give rise to many

distressing and common symptoms, we attain a greater end in the promise of a more permanent relief for our cases of chronic infections of the liver and of gastric cancer. In the realization of this, the internist and the surgeon must join together. If they do not, the records of both in diseases of the liver, stomach, duodenum, gall bladder and pancreas will continue to be a page of regrettable failures.

FOREIGN BODY IN THE BRONCHUS.

H. H. GERMAIN, M.D.

BOSTON.

Since 1897, when Killian of Freiburg reported his method of examining the bronchi by means of long tubes inserted through the mouth or through a tracheotomy wound, it has been extensively used. This procedure is largely confined to the location and removal of foreign bodies, but it has frequently been of value in localizing compression of the trachea from goiter and mediastinal tumors.

Up to August, 1904, there had been thirty-two successful removals of foreign bodies reported and there have been many more since that time. Under expectant treatment, these cases present a mortality variously given at from 56 to 80 per cent. Treated by tracheotomy, this rate is lowered to about 30 per cent. since a much better opportunity is furnished for spontaneous expulsion. These figures are more or less fallacious, as many of the fatal cases are probably not reported and some others considered cured probably die later of lung abscess or empyema. Some operators have "fished" blindly through a tracheotomy opening with hooks, wire loops, forceps, etc., with occasional success. Frequently this success has been due to the mechanical irritation of the tracheal mucous membrane, thus giving rise to excessive coughing and expulsion of the foreign body.

Trans-thoracic bronchotomy, either anterior or posterior, must of necessity be accompanied by a large mortality, given by some authors at 100 per cent., but it is probably somewhat under that. The operation, fortunately, has been but little used.¹

With Killian's method, only an occasional case will be lost and this will happen when delay has given rise to changes of one kind or another in the lungs. Bronchopneumonia, atelectasis, lung abscess and empyema are among the causes of death in neglected cases.

In adults, it is considered best to introduce the bronchoscope through the mouth (superior bronchoscopy), while in infants and young children, and in difficult cases, the instrument is inserted through a tracheotomy wound (inferior bronchoscopy). Superior bronchoscopy should be avoided in young children as it has frequently been followed by edema of the larynx, which required tracheotomy.²

The superior operation requires skill and practice, while the inferior is easy and can be carried out by anyone who has ever used a cystoscope or endoscope. For illumination Killian uses an electric headlight or a head mirror. Instrumentation under these conditions is difficult, while on the other hand a small electric lamp at the lower end of the tube leaves a clear working field. This idea was first carried out by Dr.

1. Curtis: *Ann. of Surg.*, 1898. Milton: *Lancet*, January, 1901.

2. Nehr Korn: *Deutsche med. Wochft.*, 1904, No. 40. Heidenreich: *Ibid*, No. 47.

2. The *JOURNAL A. M. A.*, Nov. 30, 1901.