jected men were divided into three classes: First, those who were not worth taking to the medical office; second, those who were rejected as a result of medical examination; third, men who broke down during two years' service. It is estimated that there are sixty thousand men in London who are physically unfit for service.

The causes of the physical and mental deterioration in England exist in this country, but to a lesser degree.

The report of the royal commission, in explaining the causes of the deterioration, deals largely, as it must, with the care and rearing of children. The causes of the physical degeneration, as set forth by the commission, are insufficient and poor quality of food, defective housing, overcrowding, and unsanitary surroundings. The commission found that in London 400,000 people live in single-room tenements, 40,000 live five in a room, 8,000 live seven in a room. In the British Isles, 3,250,000 people live with an average of three persons in one room.

The diet of the children was much the same as in our own large cities—wheat bread, tea, beer, jam and tinned goods. The commission estimated that 60 per cent. of London children are underfed; they found that children have irregular hours and lack of sleep; that children are on the street until all hours of the night. Increase of the use of alcohol among women is put down as a cause. Children of the alcoholic are found to be neurotic, impulsive, and to lack self-control.

They report that compulsory education has been a benefit morally, but not physically. Long hours of confinement without breaks, in poorly-ventilated, overcrowded schoolrooms, without food suited to nourish their bodies, unwisely clothed, plodding for years over studies that are of no practical use. All of which applies to this country. The principle of exercises in the schools was a detriment in that delicate and robust were treated alike. Degeneration of country children was found to be less; the living quarters were healthier and the food better. The country children have more regular hours, they escape late hours, and they have the benefit of plenty of fresh air.

France, with her diminished birthrate and decreasing population, has realized for several years the cause, and more than any other country she has endeavored to remedy the evils attending the care of the young. England has had the fruits of her neglect of years forced on her. Those of use who have seen much of child life among those who have the most children in our large American cities can read ahead and see that in a few generations we, too, will be deploring as a nation the inferiority of the quality of the bone and muscle of those who constitute the most valuable national asset—the so-called poor men, the men who produce, the men and the women who work with their hands.

So far as governmental intervention is concerned, but little is to be expected at the present time. By process of evolution we are still too near our aboriginal ancestors for any broad, human sympathy. What we need, what we must teach, and what will eventually come, is "sufficient governmental paternalism to realize that it is the children of to-day who will be the American nation of to-morrow, and that they excel in importance every other national consideration."²

The Government can not select a child's parents for him; but it is responsible when the parent has to live in a sunless room in an ill-ventilated, insanitary tenement.

The Government is, of course, unable to provide food for every child; neither is it necessary; but it is re-

sponsible when the head of the family, through ignorance, feeds grossly unsuitable foods to his offspring. Insanitary dwellings, poverty, uncleanness certainly play a part in producing physical degeneration in this country; its chief cause, however, according to my observation, rests on the absence of knowledge among the masses of the most elementary principles of child-feeding.

The infant's weight increases about twenty times before the adult period is reached, and its body is built by the food it assimilates. It requires no great process of reasoning to appreciate that the child which is fed on suitable food will become a more vigorous and better formed adult than one which is fed, beginning at birth and continuing during the entire development period, on food of indifferent tissue-building qualities.

It is my observation that the mother who by accident of birth and environment is a so-called "poor" mother, and an ignorant mother, is almost invariably a good mother according to the light she possesses. She is anxious to learn, and when taught she follows instructions as well as her more fortunate sister. These women need teaching, and it is the duty of the patriotic physicians of this country to teach them. The physician can in no possible way serve the nation better than by teaching the mothers of the nation how to rear the children of the nation. Every family has its physician; and, if he is the right kind of a man, he has their confidence and affection. It is he who comes into intimate contact with the daily family life; he speaks, and they believe. In the position of the family friend and teacher of the community the physician who recognizes his responsibility and accepts the physical guardianship of the rising generation determines the character of the future spiritual, commercial and political life of the nation in that he aids the children of the nation to receive what they have a right to demand.

As a result of his having lived, and lived nobly, there will be happier homes, fewer disappointed lives, less crime, and fewer dependents.

In such a capacity, from the standpoint of national worth, the physician is the most important member of the community in which he resides—a more valuable servant to the state and to the nation than a man in any other calling. He prepares the soil; without sound bodies and normal minds, secular and religious teaching are of little avail. Where the American nation shall stand twenty-five or fifty years hence, and what position it shall occupy among the nations of the earth, depends more on the physicians of to-day than on any other profession or calling whatsoever.

Original Articles.

APPENDICITIS FROM THE STANDPOINT OF THE PHYSICIAN.*

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A sufficient apology for the introduction of so time-worn a subject is found in the startling prevalence of the condition and the unnecessarily high mortality rate. So long as the daily press continues to record frequent deaths from a disease which, at some period of its course.

*Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank Jones and W. S. Thayer.

2. Editorial in N. Y. American.

is recognized by the medical profession to be distinctly curable, so long will there remain a justification for its most thoughtful and oft-repeated consideration. Although obviously a surgical condition, the discussion of appendicitis in a body of physicians appears particularly appropriate. The position occupied by the physician concerning this affection frequently is equivocal, compromising and most unsatisfactory. Although not directly involved in the later surgical management of the disease, he is compelled, nevertheless, to assume an obligation fraught with infinitely greater responsibilities than can possibly obtain with the surgeon. It so happens that in appendicitis, unlike most surgical conditions, it is the physician, rather than the surgeon, whose professional services are first sought in the majority of cases. This appears inevitable from the very nature of the public and professional relations. It may be explained largely through failure of the patient or friends to properly appreciate the character and possibilities of the ailment and from the abiding confidence reposed in the family physician. Thus it is that during the very time when the condition is invested with its greatest responsibilities, when the hour-to-hour question of management is all vital to the life of the individual, the case is rested solely with the physician, who assumes the trust with a complacency often remarkable, even in the face of a positive diagnosis. The fate of the patient usually depends on the detail and accuracy of observation, the acuteness of diagnosis, definiteness of purpose and the promptness of execution of the physician alone during the first twenty-four to thirty-six hours. According to the degree of medical intelligence and sagacity involved will the time either of surgical counsel or active operative interference be invoked. There can be no greater reflection on the professional attainments and acumen of a physician than failure to recognize at once the precise nature of the disease and to prepare at an important and opportune time for surgical relief. It is no compliment to summon surgical aid after a period of disastrous, fateful and delusory expectancy. It must be apparent that a great measure of the responsibility attending unfortunate results in appendicitis is to be attributed to the lack of exactitude of diagnosis and the delay of decisive action. Is it not, then, eminently fitting that renewed efforts be instituted from time to time to emphasize among physicians the essential features of the disease and its rational management? This paper is offered in the interests of early accurate diagnosis, and as a plea for greater preciseness of conviction among medical men in the various phases of the disease, as opposed to the *laissez faire* policy which is too frequently observed.

In a paper of this kind it is unnecessary to call attention to the variety of pathologic conditions which may exist, or to the several symptoms or signs which afford the classic picture of the disease. These are too well recognized to deserve more than passing attention. Neither does it seem pertinent to enumerate at this time the differing opinions held by surgeons as to the relative merits of early or interval operations. The views of distinguished operators, based on an enormous experience, have been sufficiently promulgated in late years to enable the profession to become more or less familiar with the rationale of their conclusions. There are those who advocate operation whenever the disease is recognized, regardless of time or conditions, and others who invariably discountenance surgical interference until the interval is reached. The distinctive claims of

those adhering to each of these radical and somewhat extreme ideas of management are founded on their special opportunities for observation, and reinforced by an array of statistical results which assuredly appear by themselves most formidable and convincing.

It is sufficient for the purposes of this inquiry to call attention—

First, to the supreme importance of early diagnosis, which, if obtained at once, affords a key for the satisfactory solution of the much-disputed problem as to the time of operation.

Second, in cases of longer duration, to the necessity of a most careful and detailed review of the previous manifestations, with a deliberate and well-considered differentiation of the several phases, to the end that a non-vacillating purpose may be evolved, subject only to the influence of such clinical developments as may obtain through intelligent observation.

It is insistently urged that a painstaking physical examination of the abdomen should be made in all cases of abdominal pain, regardless of the possible slight degree of severity of the pain, the presence or absence of chill, fever, nausea or vomiting. Not infrequently is a sharply localized area of resistance and tenderness found over the region of the appendix, without the other oft-associated symptoms of the disease. A diagnosis rendered possible at this time by a careful examination is of transcendent importance.

It is furthermore contended that the absence of definite physical signs in the right iliac fossa in the presence of sudden chill, fever, nausea, vomiting, acute general abdominal pain and prostration offers no reliable assurance of the non-existence of a most serious involvement of the appendix.

The contention is made that there is no constant definite relation between the severity of the symptoms, together with the abdominal signs, and the degree or nature of the actual pathologic change within the abdomen. There is no invariable rule by which to hazard an opinion on the existence of gangrene, perforation, abscess, circumscribing adhesions or localized peritoneal inflammation. The pathologic condition, without opening the abdomen, is at best a mere matter of conjecture even during convalescence or in the apparent absence of unfavorable symptoms.

It is obvious in the course of an acute appendiceal attack that the feeling of security engendered by the absence of distinctly unfavorable or alarming symptoms is often a most unsafe delusion. It goes without saying that no one can see into the abdominal cavity and describe the pathologic process in the neighborhood of the appendix, or estimate with accuracy the imminence of threatening morbid change. One man's dictum is about as authoritative and worthy of credence as another's, other things being equal.

It is conceded that there are certain times and conditions when it is perhaps more conservative to delay operative interference, notably when the case is not seen until after the lapse of over thirty-six hours, and when at the same time there is an apparent remission of the acute symptoms and a more or less amelioration of the physical signs. Reference is here made to the diminution of pain, lowering of pulse and temperature, absence of vomiting or chill, lessening of distension, and perhaps passage of gas or fecal matter. At such a time it is fair to assume, provisionally, that adhesions are forming and that the inflamed area is being effectually walled off from the general peritoneal cavity, or that the inflam-

mation itself has not as yet penetrated the peritoneal covering. In the absence of a return of unfavorable symptoms, it should be recognized that there is perhaps less to gain and more to lose by a meddling interference at this particular period. To say the least, however, this time of observation, even at best, is one of anxious responsibility. Pending a recurrence of the previous acute symptoms or the development of other manifestations indicating an extension of the process, it is justifiable to refrain from surgical interference. Immediately, however, on the recurrence of pronounced chill or vomiting, with increased elevation of temperature or renewed abdominal pain, the indications for operation are imperative and brook of no delay.

It is well to remember that in the event of an acute appendicitis, definitely and legitimately demanding an operation on its merits, few complicating conditions should furnish a contraindication. In such an emergency the consideration pertains solely to the choice of the lesser of two evils, and the mere existence of tuberculosis, kidney or heart lesions often affords insufficient grounds for hesitation or delay.

In all cases when operation is advocated it should be made clear, not that the operation is absolutely necessary for recovery, but that the chances for recovery are greater with than without it. The existence of leucocytosis as offering indications for the necessity of operation is of comparatively minor importance.

In doubtful cases it must be emphasized that the dangers of operation *per se* are practically *nil*, and that the dangers of delay are terrible.

The foregoing remarks are in the nature of a brief epitome of my conception of the present status of appendicitis from the standpoint of a physician.

It may, perhaps, be regarded as absurd and presumptuous for any physician to formulate his ideas and base his conclusions as to a general course of action in appendicitis from his own relatively minor opportunities for observation and a slight personal experience with the disease. It must be conceded, however, that no matter how broad his reading and his familiarity with the recorded results of others, it remains for a vivid, active and varied experience of his own to crystallize his views and define his general course of future procedure. The views which are here enunciated are derived, or at last emphasized, from a rather considerable personal experience with appendicitis solely in the capacity of a physician and among widely differing conditions. Recourse will be made to brief mention of selected and illustrative cases. These will be reported in their chronological sequence, with such deductions as may be reasonably suggested.

While, with our present light, errors of judgment and even of diagnosis are here to be observed, these mistakes have not been without their due influence for good. It may be asserted that more of real profit in the way of removing vague doubts and hesitancy, and in affording more clearly defined convictions, has accrued from these mistakes than from any other source.

CASE 1.—The patient, a boy 8 years old, after several days of malaise and headache, experienced a severe chill, followed by vomiting. He complained of severe abdominal pain which was referred to the right iliac fossa. The day previous he had been seen by a physician, who had rendered a diagnosis of typhoid fever.

Examination.—The patient was seen by me on the morning of Nov. 22, 1895, a few hours following the onset of acute symptoms. He was found lying on his back, with the right leg flexed on the thigh and the thigh on the abdomen. The

countenance was ashen and expression distinctly pinched. The eyes were dull, the right pupil much dilated, the head considerably retracted, the temperature over 104, and the pulse about 140. Examination of the abdomen disclosed tenderness, with slight rigidity in the right lower segment. Careful examination was made of the chest, with negative results. The acute onset, the chill and vomiting, the rigidity and tenderness over the region of the appendix, pointed strongly to the diagnosis of appendicitis. On account of the great prostration, the mental hebetude, with retraction of head and dilatation of one pupil, it was thought best to summon in consultation both a surgeon and a neurologist.

The consultation was held about four hours following my first visit. The temperature had risen to over 105, the pulse was much weaker and more rapid, the prostration more pronounced, the expression decidedly more pinched, and the patient in a condition of semi-coma. There was slight distension of the abdomen. The previous diagnosis of appendicitis was heartily concurred in by both consultants. A second examination of the chest, conducted by myself, disclosed the suspicion of a slight change in the respiratory sounds on the right side between the scapulae. There was neither dullness on percussion nor bronchial breathing, but a very slight prolongation of the expiration, with just a possible change in quality. I reported this change to the consultants, neither of whom, however, after examination, were willing to accept my statement that there was any deviation from the normal within the chest. My own decision in favor of immediate operation in accord with them was made, not solely because of a lack of courage in my own convictions with reference to the possible pulmonary complication, but rather on the grounds that to my own mind the hypothesis of appendicitis was the more reasonable conclusion. The boy's condition was most desperate. It was apparent that heroic measures must be instituted to save life, and that any material delay in action would result fatally.

Operation.—An unqualified diagnosis of appendicitis was made to the family, and immediate operation was performed. At this time the child's temperature was 106. A normal appendix was found and removed. The child was subjected to most vigorous stimulation during the operation and was very slow to rally subsequently. The family was informed merely that the operation had been successfully performed and that the appendix was removed, and that we must abide the issue. A few hours following the operation the temperature by rectum dropped to about 102, but arose later to 105. On the second day following the operation I was permitted to make another examination of the chest, and found the changes in the pitch and quality of the respiratory sounds to be more readily appreciable than before, and the expiration more distinctly prolonged. The temperature had remained in the neighborhood of 105, and the mental condition was that of great hebetude. It was apparent that there was a condition of most profound toxemia, and the only possible physical sign on which to base a provisional diagnosis was that of a delayed pneumonia with central localization. The day following there was a slight cough, and the physical signs readily showed a beginning consolidation. The entire lung subsequently became involved, and the child went through a two weeks' illness with most severe lobar pneumonia and recovered. The family were informed that possibly the anesthetic may have had something to do with its development.

This case is reported not only as one of perhaps unusual interest, but as an emphasis to the fact that even in the event of such a classic grouping of abdominal symptoms, and with such distinct physical signs as to make the picture almost a typical and conclusive one of appendicitis, yet there resulted a grievous error of diagnosis. Several such cases of pneumonia simulating appendicitis have been reported during the past decade. Under similar circumstances, however, ten years ago it is impossible to see how any conscientious and resourceful physician, with the interests of his patient at heart, could fail to adopt the same course of procedure. It so happened that in this instance the decision was radically

wrong, but there can be no reflection on the honesty of motive, the unhesitating assumption of responsibility, and, with the data at hand, the soundness of the judgment. In the midst of a most trying and desperate situation the course of procedure must be accepted as having been substantially correct, for the patient was given the benefit of the doubt regardless of all other circumstances.

CASE 2.—The patient, a woman, aged 33, with a long-standing quiescent pulmonary tubercular process in both lungs, experienced a sudden acute pain during the night of Feb. 13, 1901. This was followed almost immediately by a chill, and subsequently by vomiting.

Examination.—She was seen by me on the following morning. The temperature was but slightly elevated, the pulse was of good quality and not especially rapid. The pain in the abdomen, which had been general rather than localized, had subsided somewhat under hot applications, but without an opiate. Careful physical examination failed to disclose the slightest tenderness or resistance over the region of the appendix. The patient remained under observation for twenty-four hours without there being any special change in the condition. She was kept on her back with hot moist applications and with practically no nourishment by mouth. During the second night the pain became more severe, followed by renewed vomiting and another slight chill. The next morning the result of physical examination still remained completely negative. The expression, however, was not as good as on the preceding day. After consultation and a continued negative result of abdominal, vaginal and rectal examination, it was determined to move her to the hospital with a view to a possible exploratory incision. The operation was permitted to be delayed another twenty-four hours, however, during which time the temperature arose to 104, the pulse to 136. The abdomen had become considerably distended, and the whole picture was that of septic peritonitis. On opening the abdomen free pus was found throughout the general cavity. The appendix was excessively long, with its tip dipping down over and below the brim of the pelvis, where it had become adherent, thus amply explaining the failure to elicit tenderness or rigidity on early examination. Perforation had taken place, and the appendix was gangrenous in places. The patient's condition was most extreme during the operation, being sustained only through the influence of excessive hypodermic stimulation, subcutaneous salt solution, coffee by the rectum and inhalations of oxygen. She was taken from the operating room in collapse, and it was freely predicted that death would ensue within a few hours at the latest. Under heroic stimulation she rallied slightly, and during the next two or three days the condition remained as desperate as can be imagined. The pulse was exceedingly weak, the temperature considerably elevated and the abdomen extremely distended. Fecal vomiting began on the third day following the operation, and the patient became practically unconscious. In spite of most vigorous efforts, the bowels had not moved, and there had been no passage of gas. It was apparent in the early part of the third night following the operation that death would take place at once. It was my determination to remain with the patient during the night and to make a last effort to save life. It was evident that the stomach must be relieved of the fecal matter and that the gas must be at least partially removed from the intestines. After some thought it was decided to employ washing out of the stomach, which practice, I think, was new in such cases at that time. My thought was, that if the stomach could be kept clean and the gas removed, even by the mouth, that it might afford at least temporary relief, and possibly offer means subsequently to institute a natural peristalsis. While she was in a semi-comatose condition the stomach was washed out at very short intervals during the entire night with a solution of soda. Enormous quantities of gas were removed at each washing, together with considerable fecal matter. The washing was continued in each instance until the water returned perfectly clear. It was remarkable to note the very decided relief of the abdominal distension under the bandages at each time. The improvement

in the mental condition soon became marked. Stimulation was continued as vigorously as seemed justified, and the washings were continued at short intervals during the next three days. Renewed efforts to move the bowels were finally successful, and in the course of a week normal peristalsis was restored. The patient continued to a most gratifying recovery for a period of nearly seven weeks, and was meantime up and about her room, when there suddenly developed symptoms of acute intestinal obstruction. Operation disclosed most formidable adhesions, involving a great mass of intestinal coils, which were broken up with great difficulty. The patient, however, failed to survive the operation.

This case is cited as illustrating the statement previously made, that a genuine involvement of the appendix may exist without any early external evidence of its presence being obtained through the medium of an exhaustive physical examination. In this case the general and constitutional symptoms were sufficiently definite to characterize the attack as a most serious abdominal condition of some kind. A reasonable doubt existing as to its actual nature through failure to discover definite physical evidences of appendicitis, there was permitted to take place a most disastrous period of delay, which eventually resulted in the death of the patient. The lesson to be drawn from such an experience is plain to the effect that, in the presence of such an acute onset, severe abdominal pain, with change in pulse and temperature, even despite absence of rigidity and tenderness over the region of the appendix, the only safe and rational course would have been to perform an exploratory laparotomy. It must be apparent that in similar cases the dangers of opening the abdomen for such purposes are comparatively slight, and that the dangers of delay are too terrible to demand enumeration. When in doubt early in the course of such acute abdominal affections, it must be recognized that the best interests of the patient are subserved by exposing him to the relatively slight dangers of abdominal section, in order to secure, first, definiteness of diagnosis, and, secondly, opportunity to invoke life-saving surgical aid. The experience afforded in the present instance has been the direct means of saving a considerable number of very important lives.

CASE 3.—The patient, a man aged 50, was awakened on the night of March 12, 1901, complaining of slight non-localized abdominal pain. There was neither nausea, vomiting nor chill.

Examination.—On account of the persistence of the pain he came under my observation some two hours following its onset. His temperature was normal, pulse good and expression natural. There was complete absence of resistance over the region of the appendix, and but exceedingly slight tenderness on very deep pressure. A provisional diagnosis of appendicitis was made at the time to the patient and family, which diagnosis was promptly ridiculed. Under local applications the pain gradually subsided and the patient fell asleep, not awakening for about five hours. On the following morning there was no change worthy of note either in the symptoms or in the results of physical examination. The patient was kept in bed throughout the day and seen again after a lapse of about five hours. There was absolutely nothing further recognized at this time. The abdominal muscles in the right iliac fossa were perfectly soft and non-resistant, the tenderness on deep pressure was so slight as to be scarcely worthy of mention. The matter of my provisional diagnosis was made the subject of some considerable levity by the patient, family and friends. I insisted, however, on the probable involvement of the appendix and urged strenuously a complicity with my instructions relative to rest and a limited diet. These instructions were scrupulously obeyed. Late on the evening of the same day he experienced a slight chill, followed by vomiting, the temperature rising to 100 and pulse to 90. Immediate consultation with two surgeons was suggested by me, in order that in case of a difference of opinion there might be an opportunity to

abide by the majority vote. The consultation was held at midnight. The temperature at this time was 101, pulse about 96. There was no change in the condition of the abdomen. It was the opinion of the two surgeons that the most probable diagnosis was a slight appendiceal involvement, probably catarrhal in type, with the preponderance of evidence strongly pointing to a speedy convalescence, without operation. Immediate surgical interference was not advised by them. Bearing in mind the lesson derived from the previous case, which had occurred but a short time preceding, it was my privilege to refuse to abide by their decision and to strongly insist on immediate exploratory operation. On opening the abdomen at 2 a. m. it was found that the appendix was already gangrenous, with a little spot at its tip in immediate danger of perforation. The patient made an uninterrupted recovery. It is unnecessary to state that had the operation been delayed many hours the chances for recovery would have been decidedly lessened, to say the least, and this in face of the fact that the condition had been of very short duration, and with almost entire absence of physical signs.

CASE 4.—The patient, a young man, aged 23, with fairly advanced chronic interstitial nephritis, was seized during the early morning hours of May 15, 1902, with severe pain in the region of the appendix. There was a pronounced rigor and distressing vomiting. At the time I saw him in the early forenoon there was marked rigidity of the muscles of the entire right side of the abdomen, with extreme tenderness. The pulse was 120, temperature 103. His expression was exceedingly pinched, countenance ashen, mental condition somewhat dull. The patient and family were informed immediately as to the nature of the condition and immediate operation strongly recommended. This was objected to temporarily on the ground of his kidney involvement, especially in view of a previous severe uremic attack of nearly a week's duration. The case was seen at once by Dr. C. A. Powers, who strongly indorsed my position relative to immediate operation. The patient was operated on without further delay, and a gangrenous appendix removed and convalescence rapidly established.

Many other similar cases in my experience could be cited to further illustrate, despite the relatively short period of duration of the disease before operation, the finding of most extensive pathologic change in the appendix. It is safe to assert that the appendiceal findings were such as to justify the belief in nearly all that, had the operation been delayed after the first twelve or eighteen hours, the chances for recovery would have been infinitely diminished. In each of these cases the patient was hurried to operation without any unnecessary delay.

CASE 5.—The patient, a man of 50, was seen by me in consultation on the evening of Nov. 16, 1902. It was ascertained that for one or two days he had complained of very slight pain in the region of the appendix without presenting other rational evidences of appendicitis. There was no elevation of temperature, the pulse had been 80 or under for the previous twenty-four hours. There was no nausea or vomiting. The attack of pain had followed quite hearty indulgence at a dinner given two nights previous. He presented the history of having had a distinct attack of appendicitis in Paris something over a year ago, and a slighter attack in New York some months ago. The question of recommending immediate operation or of attempting to tide him over by the method of Ochsner to an interval operation was thoroughly discussed by the two medical men in attendance beside myself. My own opinion was strongly in favor of immediate operation, which view, however, was not coincided in by the other medical attendants. The consultation took place at 7 o'clock in the evening, and it was determined to keep him under observation for the time being, to freely evacuate the bowels and feed by rectum, and later, after the lapse of some weeks, to present to him and his family the matter of an interval operation. The next morning at 7 o'clock he was seized with severe pain in the right side of the abdomen, chill and vomiting. His temperature arose immediately to 102, associated with a corresponding change for the worse in the pulse.

He was hurried to the hospital and operated on forthwith. The appendix was bound down by adhesions and was found to be distinctly gangrenous in spots and apparently ready for perforation.

While no appreciable harm in this instance followed the adoption of the policy of delay, it is easy to recognize the dangerous position which is assumed in withholding operation in the early stages of appendicitis, despite the comparative benignancy of all the symptoms connected with the case.

The last case to be reported is that of my wife.

CASE 6.—On the evening of Feb. 10, 1904, on returning to my house for dinner, I was informed that Mrs. B. had not been feeling quite well for the past one or two hours. She had attended a luncheon at noon, had been driving subsequently, and had attended a reception in the late afternoon. While in the carriage on her way home she experienced slight abdominal pain sufficient to impel her to recline on reaching home. When seen by me her expression was excellent, temperature 99 and pulse 84. There had been no chill and no vomiting. The pain had entirely disappeared, and she said she felt as well as ever. I insisted, however, on making an examination of the abdomen before permitting her to get up, and found to my surprise slight resistance and tenderness over the region of the appendix. Immediate operation was quickly determined on, and Drs. C. A. Powers, W. S. Bagot and H. T. Pershing were summoned to my aid in consultation, all of whom coincided with me fully in my conception of her needs. She was at once removed to the hospital, and the operation was performed by Dr. Powers with the slightest possible delay. On opening the abdomen a considerable quantity of serous exudate presented itself. The appendix was found to be intensely inflamed, with the finer blood vessels of the surrounding parts much engorged. The wound was completely closed following the operation, and she made an uninterrupted recovery.

The incontrovertible deduction from such an experience as this is to the effect that in this instance such early surgical interference was far superior to an interval operation, even could it be determined definitely that the patient would survive the acute attack and pass on to the time thought appropriate for the subsequent operation. This is true, first, because of the entire absence of adhesions which so frequently render difficult the work of the surgeon at the time of interval operation; secondly, because of the avoidance of the suspense, uncertainty and dangers attending the management of the acute stage of the disease without operation, and, thirdly, because of the opportunity afforded in the early operation to close the wound immediately without drainage, and thus secure not only a more speedy and less painful convalescence, but also to obtain a firm, unyielding scar, devoid of the subsequent danger of hernia. One of the important lessons to be derived from this case is the disproportion between the pathologic condition and the rational symptoms of the disease. The fact that a patient could feel as well as usual following slight abdominal pain, without elevation of temperature or pulse, without vomiting or chill, and still on operation present an appendix with such distinct pathologic changes, presents an insuperable argument in favor of operation in the first few hours following the onset of the affection. To permit of such possibility, it is apparent that the factor of supreme importance in such conditions is found in early diagnosis. Such beneficent accomplishment can only be obtained through the intelligence, skill and sagacity, not of the surgeon, but of the attending physician. It is on him alone that the welfare of countless lives in the next decade will be directly imposed.

I am not aware to what extent the views here enunciated will accord with the opinions of surgeons possessing

vastly more experience, and, therefore, infinitely better qualified to define their conclusions. It does appear, however, that the subject is of sufficient importance to justify before this body the presentation of a relatively slight experience, in the hope that, through a continued and broader discussion, more definite conceptions may be entertained of our attitude and responsibilities in such cases, and to the end that the medical profession will be enabled to cope to better advantage with one of the most serious affections at present engaging our attention.

THE DANGER OF ALLOWING WARTS AND MOLES TO REMAIN LEST THEY BECOME MALIGNANT.

WITH TWENTY-FIVE ILLUSTRATIVE CASES.*

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The title of this paper indicates its purpose. It is chiefly a clinical paper, intended to emphasize the danger of not removing warts and moles, and sometimes nevi, lest they should become malignant, with 25 cases of such malignant degeneration, 12 from my own patients and 13 histories kindly furnished me by friends. Of course, the great majority of such growths never do undergo malignant degeneration, but as one can never tell which will and which will not become malignant, it is of the utmost importance, unless circumstances render it inadvisable, that they should be removed before a malignant change occurs.

Many moles and warts are congenital; others arise later in life, either in childhood or adult life, and still others frequently appear in elderly people. The ordinary warts which are so common on the hands of children, and which, as a rule, disappear as the child grows older, are not considered in this paper. It is those which remain and which involve a permanent possible danger which I shall consider.

All such growths are exposed to traumatism, such as blows, friction of the clothing, scratching on account of the itching, or, in many cases, on account of the presence of a little scab—and who can or does resist the temptation to scratch off these scabs?

In consequence of such injury or repeated and long-continued irritation—or in other cases without any assignable cause—they begin to increase in size. This sudden activity and increase in size usually does not occur for months or more likely years; it may be thirty, forty or fifty years, or even more after the mole or wart was first noticed. The moment they begin to increase in size they are, I believe, almost invariably already malignant growths, and should be treated as such.

The patient has been lulled into fancied security by the insignificance and apparent harmlessness of such a mole or wart which existed, perhaps, as long as the patient can remember. No apparent reason exists for removing it to-day rather than to-morrow, this year rather than next year. Once, however, that it has begun to grow, he begins to worry, and probably will try to cut it away, or not infrequently, women will twist a string or very often a long hair around it. When imperfectly

removed by such methods, especially if they have already begun to grow, the glands soon become involved and in a number of cases a general sarcomatosis follows. The danger of waiting until they have manifestly begun to grow and are, therefore, already malignant, is shown by the fact that ever after amputation of a hand or a foot, they will recur in the glands or in the internal organs.

A number of pathologists, following the views of Unna, first enunciated in 1892, are disposed to maintain that many, if not most, of these are epitheliomata rather than sarcomata. Other pathologists, however, regard them as true sarcomata. Those which arise from warts proper, I believe, are generally epithelial carcinomata. In a number of the cases that I report, however, especially those arising from moles, the microscopic examination showed that they were unquestionably sarcomata. Their clinical course and the macroscopic appearances are also decidedly in favor of their sarcomatous nature. In addition to this, not infrequently their sarcomatous nature is emphasized, as already stated, by a general sarcomatosis, a multiple recurrence which I have not observed in the epithelial carcinomata.

The recent paper of Wilson and Kalteyer,¹ in which one case was reported and 50 others collected from recent literature, very strikingly emphasizes the danger of leaving such growths undisturbed until they grow. Of the 51 cases there reported, 69 per cent. had their origin in a mole or a nevus. Of the 45 cases of melano-sarcoma which had occurred in the London Hospital in twenty years, which Eves² collected, 33 occurred in the skin, and of the 33, 26 began in pigmented moles. Both in Wilson's and in Eves' collected cases, the malignant changes seem to have been started in a number of cases by trauma. Even so slight but constantly recurring an injury as combing the hair, by which the growth was frequently irritated and made to bleed, in one, or the rubbing of the collar in another of the cases here reported, seems to have been the cause of the malignant degeneration.

The treatment frequently advised both by surgeons and dermatologists seems to me to lack appreciation of the need for total thorough excision before they begin to grow, for when they begin to grow they are already, as a rule, malignant. Hence I desire to emphasize the need for total excision before malignancy begins, i. e., during the quiescent and apparently harmless stage. Especially bad, I think, is the advice of Crocker,³ that they should "be shaved down with a scalpel and then have carbolic acid applied to them," instead of recommending absolute excision of the entire growth, including the skin from which they arise. Repeatedly, one finds the advice that "a mole which shows signs of activity in an elderly person should be removed at once." Such moles should be removed prior to the least "sign of activity." Even Wilson and Kalteyer speak of the "importance of early radical surgical interference in which tumors spring from pigmented moles." Instead of this, again I would strongly urge that the pigmented mole should have been removed before any tumor sprung from it.

The family physician is the one on whom the responsibility rests for this early removal, and to him especially is my appeal directed. Often when the surgeon is consulted it is too late, and the patient's life is sacrificed.

The 25 cases which I give are sufficient to emphasize

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1. Amer. Jour. Med. Sci., November, 1903.

2. Practitioner, February, 1903.

3. Diseases of the Skin, 3d ed., 1903, p. 577.