of operation in this case would be considerable owing to the frailty of the patient's general condition and her inability to accomplish much exertion on account of the cardiac condition.

These are but examples of certain classes of cases in which biliary drainage by the duodenal tube has given satisfactory results. There will be no doubt that there is a field of usefulness for it, and more extended experience will probably give indications for its further development.

References

An Address
THE SPREAD, PROBABLE MODE OF INFECTION, AND PROPHYLAXIS OF LEPROSY.

by
Sir Leonard Rogers, M.D., F.R.C.P., F.R.S., I.M.S. (Ret.).

From the time of Moses the control of leprosy has been one of the most difficult medical problems of world-wide importance. The reasons for this are four: for although the discovery of the lepra bacillus the disease is now nearly universally acknowledged to be a communicable one, yet owing to the failure hitherto to cultivate or inoculate the organism with any degree of certainty, we are still very ignorant regarding the precise manner in which the bacilli pass from one case to another; while in the absence of any reliable method of treatment it has hitherto nearly always proved impossible to detect and segregate the early but insidious stage of the disease. In view of the increased powers in the latter direction which the recent progress in the treatment of leprosy has placed in our hands, I propose briefly to review the problem in the light of a study I have recently made of the literature, more especially of the last sixty years.

The Spread of Leprosy over the World.

The following is briefly the history of the spread of leprosy over the world. Historical data show it to have been present in Egypt and India about 1600 to 1550 B.C., and in China about 200 B.C., while in Europe it was unknown to Hippocrates 400 B.C.; but Aristotle described it in 345 B.C. as a rare disease, so it was probably introduced by the invasion of Darius, taking some time to become sufficiently to attract attention. Italy was free until the return of Pompey's soldiers from the East in 62 B.C.; Galen wrote of it in Germany in A.D. 180, and it gradually spread over all Europe by the eighth to the tenth centuries. It is probable that lepers were brought over from Asia, and that the bacillus has greatly increased in Europe, becoming a scourge in the twelfth and thirteenth centuries. France alone having two thousand leper hospitals and England some two hundred, this being the first great effort to control leprosy by segregation, to which the rapid decline of the disease in the latter part of the fourteenth century is attributed by most authorities, assisted in England by the famine of 1355-16 and the black death of 1349, which are believed to have caused a loss of half the population of the country. Some ecclesiastical writers have questioned the prophylactic value of the mediæval leper hospitals on the ground that the isolation was not sufficiently complete to stamp out a contagious disease, but in view of the prolonged close house contact usually necessary to allow of infection of leprosy, as I shall show presently, they must have been of great use, and it is worthy of note that the disease died down most rapidly in just those countries where segregation was most stringently enforced, while leprosy rapidly increased to this day in countries where these measures were not much used, such as Norway, Spain, Portugal, Greece, Turkey, and parts of Russia.

Very soon after leprosy began to decline in Europe it spread to the Germanic countries, the north Mainland of Scotland especially, although since 1918, being carried by infected early Portuguese and Spanish invaders, and later also spread widely by negro slaves from Africa, and Chinese and Indian immigrants after the emancipation of the slaves; and it is interesting to note that all the evidence points to the aboriginal American Indians having been free from leprosy, while those who have always kept aloof from intercourse with Europeans still remain so. Lastly, leprosy spread through Spain, Portugal, Greece, in the second half of the last century, becoming prevalent in the Sandwich Islands in 1853, in New Caledonia in 1865—the last outbreak certainly and the former probably beginning with an immigrant Chiman Catholic who arrived on the islands by leprosy, and became evident that the then widely held non-contagionist doctrines of the origin of the disease were seriously questioned and its communicability gradually became generally recognized, being materially fastened by Hansen's discovery of the lepra bacillus in 1874.


Perhaps the most remarkable feature of the history of leprosy is the almost complete replacement of the world-arched contagious theory of its origin by the hereditary theory of its causation during the nineteenth century, largely based on the book of Daniellson and Boeck of 1848, who looked on the occurrence of a second case within a family with from one to four generations of a family—including collateral descent and affected cases, as indicative of whether the parent was diseased before or after the birth of a child—as evidence of hereditary causation, and completely ignored the possibility of family or household infection. Their theory was corroborated by the fact of spontaneous origin. The absence of hereditary propaganda of leprosy in the descendants of Scandinavian lepers living under far more favourable hygienic conditions after migrating to the United States of America; the frequency of infection in lepros tropical climates of Europeans free from all hereditary taint; the spread of epidemic leprosy in Oceania far too rapidly to be possibly accounted for by heredity; and the rapid loss of sexual powers of adult male lepers and want of development of such powers in their female dependants, already greatly shaken the hereditary theory before Hansen's discovery finally established the infectivity of the disease, although the precise mode of communicability still remains unsolved and has to be discussed in the light of recorded cases.

The Communicability of Leprosy.

As the result of an analysis of answers to questions sent to a number of medical men in leprosy countries in 1882 the Royal College of Physicians of London reported leprosy "not to be contagious or communicable to healthy persons by proximity or contact with the diseased," and that there was therefore no justification for segregation measures. As the indirect path of infection was supposed to be the stopping all action in that direction and urged the repeal of all laws empowering isolation of lepers. Yet Dr. N. C. Macnamara, L.M.S., with great experience of leprosy came to the same conclusion. During and against writers who saw the reports from India, constituting a large majority of the total reports of the College, further opposition to whose view was soon forthcoming from actual workers in the tropics. Thus, Drogo Landré recorded a number of infections in 1869; all the thirteen doctors reporting for the British Guiana Leprosy Commission of 1875 favoured contagion; W. Munro collected many cases and stated the whole case in favour of contagion in 1877-79; Brousse, with long experience in Martinique, stated that leprosy was a contagious disease; in 1879, and Hills of British Guiana, in an important work on leprosy (1881), found evidence of contagion in 67 per cent. of 139 cases without heredity which he closely investigated. In 1876 Hansen refuted the hereditary theory in Norway and supported the communicability of the disease, and in the next decade Vidal, Bocq, Leloir, and Bernier took the same view in France, and, with the exception of the Indian Leprosy Commission of 1881, which a strong anti-communicabilist was associated with, report cases whose views were repudiated by the London Leprosy Investigation Committee who appointed them, every important leprosy conference of the last three decades has endorsed the communicability of leprosy, and the agreement of the School of South America, where leprosy is endemic, with Sir Jonathan Hutchinson's view, first put forward in 1853, that leprosy was "fish-eater's gout"—but subsequently repeatedly modified until "commensal communicability," apart altogether from fish diet, was acknowledged—is also a prebacteriological theory of only historical interest.
Conditions favouring the Spread of Leprosy.

The most important of these is a low stage of civilization, such as that which accompanied leprosy prevalence in the Middle Ages, and still persists among the poorer classes in India, China, Africa, and Polynesia, etc., and to some extent in Norway and Iceland, in the form of one-roomed houses and overcrowding, and promiscuity; great social novelty, as in the Sandwich Islands and in Norway at certain seasons; absence of all fear of the disease—social ostracism and leper families, on the contrary, having been followed by temporary disappearance and dissemination; death, or at any rate removal, of the affected, as in the United States, France, and South Africa; in 1785 White); a slow state of morals and sexual promiscuity, as in Europe in the Middle Ages (G. Newman, and recently in Hawaii, where it is recorded that only those Europeans who had intimate associations with the aborigines, or lived in badly crowded house, had pointed out that animal proteins are largely absent from the diets of the leprosy-afflicted races of Africa, India, China, etc.

Leprosy Incidence and Climate.

Leprosy is prevalent from Iceland to the equator, so that climate alone appears to have little influence on its occurrence. Nevertheless, a study of the rates per mill, that I have collected shows that very high leprosy incidence, such as 5 per mile and upwards, only occurs within the tropical zone in places with a high rainfall, nearly always from 60 to 180 inches or more a year, thus having a hot moist climate, which may possibly be favourable to the survival of lepros bacillus for a longer time outside the human body, facilitating infection. Thus, in central Africa we have recent records of rates per mile of 5.0 in French Guinea, 5.2 in North Nigeria, 13.0 in French Equatorial Africa, 20.0 in Abyssinia. 20.3 in the Kamerun, and 60.7 on the Ivory Coast; in Asia, 10.7 in the Dutch East India Island of Ambon, and, according to Kirneggern, 44 in the Straits Settlements; in China, 1.9 in New China, 3.0 in the Loyalty Islands, and 66.7 in the Marquesas Islands, while in Hawaii, in 1896 at Barbasol, 18.0 in Trinidad, 4.0 in French Guiana, and 25.0 in Dutch Guiana, appallingly high incidences when we recall that the lepers in these islands can be found not only in the streets of all large towns, the rate is barely 0.5 per mile.

Between the tropics and 35° latitude, as well as in some tropical countries, the leprosy rates per mile are comparatively low, in 1750 in Egypt, Algeria, Argentina, etc.; while in colder latitudes the highest rates we have so far found are 9.0 in 1896 and 1.1 in 1907 in Iceland; 1.91 in 1896 in Norway before isolation measures were adopted; 1.94 in Japan, and 1.96 in Cyprus. In considering the influence of temperature we must bear in mind that during the long winter months of high latitudes the people are closely crowded in houses artificially warmed to a high degree, so that if the infection is mainly a house one, as seems to be the case immediately the climate and cold countries as Iceland and Norway may easily be more favourable to the communication of the disease than those in places between 35° latitude and the tropics with climatic conditions favourable to open air life during the greater part of the year, and the incidence of leprosy just described is easily understood.

Group Infections in Newly Attacked Countries.

Owing to the incidence period of leprosy commonly extending to from two to eight years or more and the insidious onset of symptoms, it is naturally exceedingly difficult to trace the source of infection in places where the disease has been widespread for a long time, but in newly infected countries a number of striking instances are on record, such as the following: In Cape Breton Island the first case was a French woman aged 22, from whom infection was traced to five of her children, all born after she was attacked, two granddaughters, a stepson, an attendant of one of the leper sons, and a man who had slept with one of the lepers. In the three persons not related to the family being thus among the victims. In the Dutch settlements of 1866 a French woman was again the first leper; three of her four sons, one of two daughters, her stepson, and a neighbour, within eight miles away, a young woman who nursed the first patient, and a young man who slept with one of the infected sons were all attacked within a few years. Again, in the Memel leprosy district of Lithuania, 78 cases of leprosy were traced to infection introduced into a previously free district by six lepers coming from Russia to reside there as servants—examples which will suffice to prove the easier and more favourable circumstances the slow and insidious communication of leprosy from case to case.

In Natal two natives returned from the Cape after living there with a leper woman and both developed the disease two years later, with the result that leprosy became widespread among the neighbouring previously uninfected tribes, over 100 cases being known at the end of forty-two years.

Modes of Infection.

The general history of the spread of leprosy over the world—and its progress in newly infected countries thus leaves no doubt that the disease is in some way communicated directly or indirectly from one patient to another through the causative bacillus. The exact mode or modes of infection, however, remains obscure. While it is now generally admitted that the intermitten character of the disease, the apparent absence of any morbid changes in the skin of the leper, the absence of shedding of bacilli while convalescent, the partial resistance of normal human skin to the infecting organism after exposure to leprosy, and the fact that there are no cases known of leprosy having been transmitted from a leper to a healthy individual, we are still far from clear in our ideas on the mode of infection. It is probable that the whole history of the disease can be accounted for on the assumption that it is transmitted through the air, by the interposition of some intermediate host, or by the touch of an already infected individual.

The approximate distribution of cases in lepromatous and tuberculoid leprosy in any country can be ascertained by the following table, which in the probable source of infection was noted.

Table of 700 Recorded Cases of the Probable Source of Infection in Leprosy.

<table>
<thead>
<tr>
<th>Mode of Infection</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conjugal</td>
<td>85</td>
<td>12.14</td>
</tr>
<tr>
<td>Cohabiting</td>
<td>43</td>
<td>6.44</td>
</tr>
<tr>
<td>House</td>
<td>35</td>
<td>5.00</td>
</tr>
<tr>
<td>Room</td>
<td>64</td>
<td>9.14</td>
</tr>
<tr>
<td>Attending on lepers</td>
<td>3</td>
<td>0.43</td>
</tr>
<tr>
<td>Leper playmate</td>
<td>23</td>
<td>3.28</td>
</tr>
<tr>
<td>Close association with leper</td>
<td>3</td>
<td>0.43</td>
</tr>
<tr>
<td>Wet nurse</td>
<td>13</td>
<td>1.94</td>
</tr>
<tr>
<td>Wearing leper's clothes</td>
<td>3</td>
<td>0.43</td>
</tr>
<tr>
<td>Inoculation from leper</td>
<td>3</td>
<td>0.43</td>
</tr>
</tbody>
</table>

In considering these figures it is worth recalling that the stock arguments of the anticontagionists were that the disease was rarely transmitted from husband to wife and vice versa, and was very rare among attendants on lepers, yet most of the cases in the table can be traced to a relationship between the leper and the individual attacked, and it is clear that a 9.5 per cent. of the cases are due to leprosy infection before the disease was communicated, although occasionally the contact was short, as in three instances in which the infection was traced to sleeping on a single occasion with a leper woman, the man developing leprosy after ten months, one two and two years respectively. Many of the cases in which infection followed cohabitation between healthy and a leprous subject were European males living with lepros native females in tropical countries, while a number of the cases in which the infection took place in temperate climates, such as Norway. There is, however, evidence that conjugal infections are comparatively uncommon in proportion to the frequency of this form of infection, and it is possible that the disease is more commonly transmitted by the air, in some way, before the leprosy.
has also been pointed out that owing to male lepers soon losing their sexual powers their wives are then little more exposed to close contact with them than other members of the household. The infections among playmates were mostly European children associating with native leper children, and it is not uncommon for them to get it between 2 and 20 years of age. The house infections include many persons who occupied the same room or even the same bed as a leper, apart from conjugal and cohabiting couples, the addition of whom brings the known bed infections up to no less than 27.7 per cent.—a most striking fact which well explains the lesions of one hand in addition to numerous macules. Equally striking are two tropical cases, in each of which a leper boy inserted a sharp instrument into his flesh and a European playmate—unconsciously, of course—received the same instrument into his limb, both developing leprosy in a comparatively short time. In the two cases said to have been put to the test with all the preceding evidence, makes me think that the common mode of infection is the inoculation of the bacilli through minute accidental lesions in the skin, and possibly also in the nasal or oral mucous membranes; in further support of this view, we have the instructive observations of Lebouf in New-Caledonia, who found acid-fast bacilli on the skins of seven out of twenty-nine healthy persons living with lepers, of whom actually developed the disease later. Much work has been done to infect cells with the tubercle bacillus and the leprosy bacilli through the bites of insects, with inconclusive results, but it is still very possible that it may be so carried. It also appears to be very significant that leprosy is very rarely transmitted to children, and that if this be true it is through the mucous membranes and possibly the nasal passages after contact, although once the infection is fully established the bacilli may undoubtedly be disseminated through the blood stream.

The Principles of Prophylaxis and Causes of Failures.

The foregoing considerations make it clear that the first essential in prophylaxis is the removal of all infective cases from frequent and close contact with the healthy, especially the most susceptible—that is, children and young people up to 20 to 30 years of age. By far the most infective type of leprosy is the tuberculous form, including mixed cases, with discharge of large numbers of bacilli from the nose and breaking-down nodules; while anaesthetic cases, especially chronic mutilated ones, who have often lost all infectivity are comparatively innocuous, yet they constitute the great mass of infected persons with the public. it is with account of their helplessness, although their isolation is of little value in preventing new infections. It is significant that in the recent epidemic outbreaks in the Pacific islands leper cases have not been isolated, and that in the recent segregation measures in Norway great attention was paid to isolating the tuberculous cases in hospitals, and home isolation under close medical supervision was mainly confined to the slightly infective nerve form.

The safeguarding of children and young persons from contact with lepers cannot be too strongly insisted on, and I have elsewhere shown their great susceptibility. This view is also held by Professor Lie of Norway and other authorities, and the children of lepers in Norway are, regarding their infected parents at birth whenever possible, and marriages of lepers, at any rate of the child-producing ages, should be prohibited, for McCoy has shown that the fecundity of females is little if at all reduced. There is less reason to regard an adult of over 30 voluntarily accompanying his or her congenital mate to a leper colony, as infection is then comparatively rare.

When we come to enforcing segregation we meet with great practical difficulties, as the negro lepers and leprosy patients must be so tactfully exercised as to obtain, if possible, the cooperation of the people to prevent extensive hiding of cases vitiating the results. In the absence of the earlier treatment of leprosy it is necessary to recognize, partly owing to many cases not being detected until years after the onset of the disease, and partly from insufficiency and want of continuity in carrying them out. Time will only permit me to mention a few illustrative examples,

Inoculation theory, as are the cases in which leprosy has been recorded to have been contracted by wearing leper's clothes; while Tonkin has associated the high incidence of the disease in Trans-African Sudan stretching across from the Malay Peninsula to Northern Nigeria with the habit of custom of clothes being passed on from the well-to-do to poorer and poorer persons until threadbare, without ever being washed.

The significance in this respect is the strong suspicion that in rare instances leprosy has been transmitted by arm-to-arm vaccination, as in Professor Gairdner's cases of a European child developing leprosy after being vaccinated from a native child of leprous family in the West Indies, and another European child vaccinated from the first showing the disease after his return to England; and those of Hill in which a brother and sister of a Portuguese family both got leprosy after vaccination from the same source. Exaggerated results, however, have been obtained in the West Indies, but in the Sandwich Islands leprosy did undoubtedly spread widely after very carefully performed wholesale vaccination during epidemic small-pox in 1852 (Daland); it is also on record that in parts of the Sandwich Islands leper centres developed after vaccination in numerous places where it previously had been unknown, and the same relationship has been reported in Mexico. Moreover, Arring in Hawaii readily obtained lepra bacilli from vaccine vesicles rather than from nodules; recently they have all in anesthetized cases with few bacilli, while he found acid-fast bacilli in the one nodular case he tested. This disaster is easily prevented by the modern method of using calf brains.

Although, with the exception of Arning's disputed Hawaii criminal, the results of the experimental inoculation of man with lepra bacilli have been negative, probably on account of the subjects being over the age of the greatest susceptibility to the disease, yet there are cases on record which practically amount to positive inoculation experiments, such as the following. Professor Ehlers records the case of a Danish doctor wounding his finger during an obstetrical operation on a leper negro, followed by slow healing, and after a comparatively long incubation while he also had extensive abscesses. In another case a doctor wounded himself in opening an abscess of a leper and subsequently developed the disease; while I met with several cases in a leper colony of a doctor who attributed his disease to operating on a leper, and also had had extensive abscesses. In another case the beginning in the wounded finger, appeared. In another case a doctor wounded himself in opening an abscess of a leper and subsequently developed the disease; while I met with several cases in a leper colony of a doctor who attributed his disease to operating on a leper, and also had extensive abscesses.
although I hope before long to be able to deal more fully with the whole subject of leprosy. Thus, in Crete there are leper settlements at the large town whose inmates have to beg for their livelihood, and Ethnics found that some made enough money to buy their houses in the leper villages, and then let them to healthy people while they went on begging tours; while in South Africa the accommodation was for long too sparse and the lepers were forced to live in unhygienic conditions, and this had led to a direct result of the unfortunate 1865 College of Physicians report, which was recorded in British Guiana, St. Kitts, and in Dutch East and West Indian colonies, and similar vacillations of policy led to the unfortunate failures in French Guiana, Poland, New Caledonia, etc. Want of compulsory powers led to very slow progress in stamping out a focus of leprosy in New Brunswick, while political influence prevented the full use of compulsory powers in Louisiana. In the Sandwich Islands little progress was made until the segregation laws were more rigorously enforced under American influence, when much more satisfactory progress was made, and in the French possession of New Caledonia village segregation largely failed for want of sufficient influence of the native chiefs, but the same system met with considerable success in the French Marquesas Islands with the help of the military power of authoritative chiefs. In Norway, on the other hand, patient persistence in a consolidation campaign and the same technique as that of Caledonia and New Caledonia, etc. Was of considerable importance for the perfect isolation of the disease, and the same technique has also been used with the same results in the islands of Norway which had been leperized at the time of the enquire. In the Marquesas Islands the disease was reduced to a very small proportion of the number of remaining cases due to unisolated lepers in the districts, proving that the disease declined as the number of lepers was reduced. Yet Norwegian experience showed that only case in 5 was discovered and isolated within the first three years of the appearance of the symptoms, thus largely accounting for the slow progress in stamping it out of Norway. And if this is the Japanese or European country with numerous medical men, it will necessarily be much more difficult in medically backward and poor tropical countries such as India, Hawaii, and the Philip- pines, so that the following statement as that of Bayon that new cases of leprosy had been reduced by 90 per cent. Within a few years of segregation being enforced in the Philippines have not been borne out by later official figures showing the yearly discovery of many cases. It would, however, be prejudicial to know how many lepers in the present year are present annually to the Cullion settlement are a new country in the Norwegian sense and how many are old long-hidden lepers. A careful study of the above instances and the experience of Norway showed that the chief factor in maintaining the disease is that the lepers have the strongest possible incentive to hide their disease as much as possible to avoid lifelong imprisonment without hope of cure, so long will it be a very slow process, a prolonged, painful, and exhausting procedure to stamp out the disease by the only effective measure—isolation of the infective sick from the healthy.

The Value of Improved Treatment as an Aid to Prophylaxis

This brings me to my last and most important point. Now that we possess the soluble preparations of the active unsaturated fatty acids of chaulmoogra, cod-liver, soya bean, and other oils introduced by me in the method of clearing up the bacilli-bearing lesions of leprosy, with loss of infection, including cessation of the discharge of the organisms from the nose, lepers have for the first time a powerful incentive to come forward for treatment as early as possible instead of hiding their terrible calamity. There is already clear evidence, both in Honolulu and in India, that early cases are declaring their disease and asking for the new treatment, which is the most revolutionary and hopeful sign in the age-long and most individual course. All the more reason to put on account of its insidious onset and prolonged disfiguring course; so I would urge that the time is ripe for renewed efforts under the present favourable conditions to deal more effectively with the leprosy with its many variants and eventually stamping it out. In Honolulu scores of cases have already been discharged from the hospital, apparently cured, under parole, and good progress is also being made elsewhere, especially by medical missionaries in charge of Indian leper asylums, in spite of their difficulties in the face of the modern prison at Ditchpool, for example, earlier cases are now flocking in for the new treatment. The various Indian Provincial Governments are also taking up the provision of leper settlements with ample land in the country in place of the old prison-like town asylums. Being already acquired 220 acres of land for this purpose at the cost of a liberal Indian gentleman, and the Legislative Council has recently voted a larger grant than the Indian Minister originally proposed owing to financial stringency, and it is hoped before long to be able to accommodate 1,000 lepers, with a cottage system for earlier cases, a hospital for advanced maimed ones, and a separate part for healthy children of lepers; and when patients begin to arrive it will be seen that the demand for accommodation is likely to exceed even that now being provided, although with the simplified intramuscular injections of the ethyl ester preparations it will also be possible to treat numerous of early cases at hospitals. With several hundred thousand lepers in India and probably one million in the world, including those among the dense populations of China and Africa, the task is great; but once a fair proportion of the earlier and more amenable cases receive regular treatment, rendering them no longer Infective to their households and neighbours, new cases should gradually decrease, while the advanced and helpless cases will die out by degrees, and slow but sure progress will be made in the hope that perhaps the most dreadful disease to which human flesh is liable.

ACUTE INFLAMMATION OF A LARGE DIVERTICULUM OF THE JEJUNUM WITH PERFORATION.

By G. W. CHRISTIE, M.C., M.B., F.R.C.S. EDIN., Late Resident Surgical Officer, Yokohama Hospital, Yokohama.

The following case presents many points of clinical and pathological interest.

On February 3rd, 1922, I was asked to visit a married woman, 48 years of age, who the day previous had been taken ill suddenly with acute abdominal pain and had vomited several times. Her bowels had not moved during the last forty-eight hours. When I saw her she did not look ill; the pulse was 96 and the temperature 99°. She was of good general condition, excepting that she was somewhat flabby. She complained of acute pain in the left side of the abdomen, below the umbilicus. At the site of the pain there was a tender mass palpation and a suspicion of a large swelling. X-ray showed an abnormal proportion of absorption in the region of the lower diaphragm. By inspiration I could feel a round mass, somewhat larger than a tennis ball, about midway between the umbilicus and the symphysis pubis, just to the left of the mid-line, and hard and of the consistence of a uterine fibroid, though it was extremely tender. Vaginal examination did not offer any assistance in diagnosis, and per rectum no fullness could be felt through the pouch of Douglas. The swelling was not particularly mobile, though not immobile. There did not appear to be any urgency to explore the abdomen, so I kept the patient under observation and with fomentations to the abdomen and enemas the condition gradually subsided. The swelling, however, still remained tender, though I noticed that it was becoming smaller from day to day. There was no sickness or vomiting after the first twenty hours. When the condition had more or less subsided I advised operation, and I performed fourteen days after the onset of the acute phase of her illness.

Previous History.

For years she had suffered from flatulence. She had also been subject to recurrent attacks of colicky pain in the abdomen which periodically had necessitated a day in bed. These attacks had been most frequent on a glass of milk before retiring to bed. She had never been regular and she had never had attacks of sickness. She had no children. Menstruation had always been scanty and she had never missed a period during her twenty years of married life. Her general health had been good.

Operation.

On February 16th, 1922, I explored the abdomen by a mid-line incision. No evidence of an umbilical hernia was found. The peritoneum was full of clear fluid and the puncture of the swelling revealed a quantity of serous peritoneal fluid escaped. About the centre of the abdomen to the left of the middle line was a mass somewhat larger than a tennis ball and it was partly mobile. When the swelling was slowly denuded of its omentum there was exposed a large spherical swelling, tense and fluctuating, about the size of an orange, situated on the left border of a loop of small intestine. While separating the omentum from the peritoneum, a large gangrenous patch was disclosed on the fundus of the swelling, with a perforation through which very foul-smelling pus and semi-solid contents escaped. It was