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Original Communications.

THE TREATMENT OF EPITHELIOMA WITH X-RAY*

BY DOUGLASS W. MONTGOMERY, M.D.,
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Sequeira was among the first to treat epithelioma with X-ray. Jonathan Hutchinson, Jr., sent him a patient to be treated with the Finsen light. He used the X-ray instead, securing a cure. Phillip Mills Jones, of this city, was the first in America to use the X-ray therapeutically, having treated and cured a lupus with it in 1899. All my work has been done with coils, and almost all of it with a mechanical interrupter, and the tubes used have been moderately high.

For the protection of the patient, there is used a wooden frame into which are slid large sheets of lead with a circular hole in the centre. The frame is so constructed that it may be placed at different angles and raised and lowered on a standard. It is similar in construction to many devices on the market. Smaller pieces of lead are fitted down over the affected region and pierced so as to expose only the part to be treated. One of the failings of this device is, that it does not permit placing the tube close enough to the patient, as the electrical spark is apt to jump from the terminals of the tube to the frame. My assistant, Mr. Maiewsky, has therefore devised, in its stead, a frame which is very convenient. It is made of copper wire that can be readily bent into any convenient shape and yet is strong enough to bear any lead weight that may be placed upon it. This frame rests on the sofa head on which the patient reclines, and on his shoulders, and as the lead sheets can be bent away from the tube terminals, the spark is not apt to jump. This frame gives a good support to the lead sheets that

*Read before the San Francisco Medical Society, January 12, 1901.

would be very irksome for the patient himself to sustain, were they applied immediately on the face. In almost every case except where the hands are being treated, the steadiest and most convenient position for the patient is the recumbent.

As regards time, almost always ten minutes is given every second day until redness appears. From six to eight, or even fifteen sittings can be reckoned on to do this. It is important to give what is considered enough, then to stop and await the results. Often very little change is observed at the time the treatment is stopped, but in a few days, healing sets in and progresses without further use of the X-ray. Many times it has been found difficult to get any reaction whatever, and the

Fig. 1.—Copper wire cage to support the protecting lead sheets.

treatment has been continued day after day without producing any noticeable therapeutic effect whatever, and finally has to be abandoned.

The proximity of the tube to the part treated is considered of as much importance as proximity to a fire if one wishes to get the benefit of its heat. The intensity of the X-ray is probably, as in light, inversely as the square of the distance. In many instances, in my experience, the tube was placed very close to the surface to be treated, even as close as an inch and a half. In this matter I was frequently guided by a piece of information that Malcolm Morris gave me personally: that you

can pour X-rays into an ulcerating surface almost unstintingly without fear of burning. I suppose it acts on the pathological tissue and does the normal tissue no harm. If this is true, and my experience points to its being so, it is a matter of great importance. It enables one to act quickly, vigorously, and with heavy dosage, then to stop and allow healing to take its course. This eliminates long continued X-raying, which, like any other long continued irritation, may even cause a cancer. It is because of the liability of causing a cancer, or exciting to greater growth one present, that I have advised against any further use of the X-ray treatment in cases where the X-ray has been used for a considerable time before consulting me.

Fig. 2.—Epithelioma, seborrhea and senile patches before treatment.

I believe it is still an undetermined question how long a time should elapse before resuming an X-ray treatment in such cases. When one considers the long-continued effects the X-rays are known to have on the tissues, it is possible that this intervening time should be at least several weeks. Of course this would preclude the resumption of X-ray treatment at all in many cases, because, in the meantime, the cancer would have made considerable or fatal progress.

It may be that sometimes the influence of the X-rays on the tissues lasts a very long time indeed. This was brought concretely before me in a case treated in association with Dr.

Howard Morrow. The patient was an elderly woman with an epithelioma of the cutaneous surface of the upper lip that had been troubling her for years, and that, before consulting me, had been hurnt out with some caustic. She got a couple of treatments from me, and as I then left town for my vacation, Dr. Morrow took her in charge. It was understood between us that the tube was to be approached as near the lesion as possible, and it was important to get a good result. The reaction was severe. The treatment was begun in the last week in August, and continued during the first week in September, 1902. On my arrival home early in October, there still was a distinct margin of epitheliomatous infiltration running parallel with the

Fig. 3.—The same patient after treatment by curetting, burning out with chromic acid and arsenical paste, and the use of the X-ray. The X-ray has knocked off the hair above the ear.

vermilion border of the right side of the upper lip, and the mucous membrane, at a "hare-lip-like" notch, the result of a scar from a previous operation, was a much lighter red than on the normal portions of the lip. Nevertheless, the principle was adhered to, that a large dosage of X-ray should be given, and then the treatment entirely stopped, so that no further X-ray was given. The lesion kept on improving steadily for fully a year after stopping the treatment, until now the lip looks as normal as scar tissue can. As before mentioned, this case

seemed to indicate the long-continued influence of this strange therapeutic agent.

In quite a number of cases the X-ray alone is capable of curing epithelioma. This is especially true of superficial epithelioma in the region of the eyes, and on the sides of the nose. In regard to the eyelids this is particularly fortunate, as this is a difficult region to operate in, and also one in which it is hard to secure a good plastic result. Then, again, there is another admirable feature of the X-ray, where it is successful. It leaves a small and very smooth scar. In fact, in many instances, the word scar is inappropriate as applied to the almost imperceptible malcule that is left.

The treatment is not always painless, because, if a lively reaction results, the pain may be quite severe, and the bleeding or ichorous discharge may be considerable. But, in a large number of cases, if a milder treatment is adopted, there is no pain whatever. For aged or feeble people who cannot stand hardships this is a decided advantage over the harsher treatments by curetting, excision, or cauterization.

Although at times the X-ray clears up an epithelioma in a remarkably short time, and in an ideal way, both as regards the size and the character of the scar, and the painlessness of the procedure, yet one can never be absolutely sure that it will cure, and, unfortunately, a long time is required to prove this.

In order to bring out clearly this objection, let us imagine a patient coming to the city to be treated for epithelioma. The treatment can be said to last for at least eighteen days, or for nine sittings. At the end of this time very little change may be apparent. One must wait to see if healing will take place, say another ten days. If, at the end of that time, no change is observable, from the point of view of the patient, the treatment has been an expensive failure. Sometimes even around the nose, where ordinarily the X-ray is so successful, it may fail, as in the following instance: A woman, aged 77, was referred to me by Dr. Wickman, of San Rafael, for the treatment of an epithelioma involving the whole tip of the nose. It presented a large, bright red, granulating surface involving the whole nose tip, and invading the right cheek. X-ray treatment was begun October 6th, 1902, and between that time and November 6th, she received about ten treatments, some of which were quite close (two and a half, and one and a half inches). There was very little effect from the X-ray at all, and the patient was suffering a great deal from bleeding and discomfort. I then burned the surface with caustic potash. This acted much better and the sore began to clear off, but it was not doing as well as it was considered it should. On December 18th, 1902, I painted the whole surface with arsenious acid gelanthum paste. A tre-

mendous reaction was secured. There was severe pain, but the lesion, as soon as the reaction subsided, began to get well, and now the affected region is covered by a smooth, supple scar. This epithelioma was of a kind that I have before seen on the nose tip. They frequently spread quite rapidly, and present a bright red, irritable, easily bleeding surface, with very little tendency to deep infiltration or to the formation of nodules.

Now we come to the consideration of the use of the X-ray, not as a sole means of treatment of epithelioma, but as a most useful addition to some other means of treatment. Even in epithelioma of the lip, where so many acknowledged failures with the X-ray are shown, it may be an excellent aid. The X-ray may be used to check the growth or to decrease the size of the tumor, after which an operation of much less extent may be performed than in the first place would have been necessary. What is true of the lip in this respect is decidedly true of epithelioma of the free surface. In fact the X-ray not alone cures or benefits the epithelioma, but it also benefits the diseased skin in which the cancer is situated, and in which the cancer is often only the most prominent and threatening symptom. A patient presents himself, for example, with his face covered with seborrheic and senile patches, some of which have developed into epitheliomata. If the epitheliomata alone are cured, there is still left the disease from which they sprang. The accompanying photographs show this condition of affairs very well, and the X-ray in these cases does a great deal in clearing up this seborrhea, which is disfiguring, disagreeable, and which may be ultimately dangerous to the patient. The X-ray may therefore be used before an operation to decrease the size of the lesion, or it may be used after an operation for the benefit of the surrounding skin, and as an additional guarantee in eradication of the cancer.

The X-ray should be used in those cases where cauterization or curetting, or both have failed, or when an operation is difficult or dangerous. For example, the following is an instance in my practice where an epithelioma had extended deep into the tissues at the internal canthus of the eye, and where the X-ray reached the difficulty in a way nothing else could have done. Arsenic paste had previously been used to burn off the growths on the eyelids and down the side of the nose. Arsenic could not, however, be used down in the corner of the eye, because the tears washed it away. Some of the disease had also been successfully treated with the Finsen light. The Finsen light could not, however, reach down into the corner of the eye, because the nozzle of the instrument was not small enough to be pressed into the narrow space, and pressure is an important factor in Finsen light treatment. It was a dangerous place to

operate unless the whole eye was unucleated at the same time, which the patient objected strongly to being done. The actual cautery was objectionable because of the keloidal scars that sometimes follow its use, and because of the fear of secondary hemmorrhage, which, in such a situation might be difficult to control. After a careful consideration of all the above methods of treatment it was determined to use X-rays, and they were poured down into this corner with an admirable result.

In summing up: The X-ray may be used when pain is particularly to be avoided, as in old, feeble people, or when a good cosmetic effect is particularly desirable. It may be used when the patient is so situated that he can afford a long course of treatment, and when the course of the disease is so slow as to allow one to almost neglect the element of time. It will cure over fifty per cent. of epitheliomas of the face, and will diminish the size of the lesion in a very much greater number. Supposing it to act only in diminishing the size of the lesion, it is still very valuable, as a subsequent slight curetting and cauterization has, in my experience, often finished the cure, leaving a much smaller scar than if the X-ray had not first been employed to initiate the treatment. It probably should be used after every operation for cancer, because no operator can be sure he has carried his line of operation out beyond the diseased area, whereas this remedial agent can be easily administered to a far wider area than any operation can be made to include, thereby acting on diseased foci that would have otherwise entirely escaped.

GASTRO-ENTEROSTOMY, WITH REPORT OF CASES.

By INGERSOLL OLMSTED, M.B. (Tor.), Hamilton, Ont.

During the last few years, the surgery of the stomach has made such rapid strides in advance that the literature of the subject has become very voluminous. It is not in my power, I fear, to add anything of importance to your knowledge of the subject, yet every case operated on should, I believe, be reported. It is by the failures, as well as the successes, that we learn.

It is now ten years since Doyen introduced the operation of gastro-enterostomy for the relief of ulcer of the stomach, and the successes attending this procedure have been of such a universal nature that it is now almost generally adopted by surgeons for the relief of this condition. For old chronic ulcer of the pylorus, it is almost an ideal operation, causing, as it does, a relief of the symptoms and healing of the ulcer.

Since the improvement in the technique of gastro-enterostomy the mortality of this operation has been reduced to a minimum. Robson[1] says in his address on surgery at the last meeting of the British Medical Association: "So recently as 1900, when I gave the Hunterian lectures on the stomach, of the 1,878 cases of gastro-enterostomy that I was able to collect from all sources, the mortality was 36.4 per cent.; but since that time the surgery of the stomach has made such rapid progress that in 103 posterior gastro-enterostomies which I myself performed up to December, 1902, for various diseases, including cancer, there was a mortality of only 3.8 per cent." "Until quite recently gastric ulster, except for one or two of its complications, has been considered to be a subject for medical treatment from first to last. The profession is, however, becoming awakened to the fact that it is not the trifling ailment that it was once considered to be." "Leube, one of the greatest medical authorities, says that one-half or three-fourths of all cases will be cured by four or five weeks of treatment; but if not better in that time, they will never be cured by medical treatment alone." The views here expressed are those generally held by the physicians of to-day, and when one considers that from 90 to 95 per cent. of those obstinate cases can be cured by operation, the argument is a strong one indeed for such treatment. Gastro-enterostomy is the operation to be relied on. It drains the stomach perfectly, relieves the hyperacidity, produces rest of the organ, with the healing of the ulcer.

When one remembers the frequency with which cancer is engrafted on the base of an old ulcer, it seems wise to submit the patient to an operation, with a mortality of from 4 to 10

per cent., which will help very materially in warding off any such dire occurrence. Some advise a pylorectomy for such conditions, yet this requires longer time, and there is certainly greater shock. Mayo, Rodman and Rydygier, however, consider pylorectomy the correct operation. Where cancer is present, the surgeon sees the patient too late, as a rule, to effect a cure by a radical operation, yet the results of Kocher, Krönlein, Mayo, Hartmann, Robson and others are so favorable that we are encouraged to do the radical operation whenever the strength of the patient justifies it. Gluzinski,[2] in speaking of cancer, says: "The palliative operation (gastro-enterostomy) is justifiable only in special cases, where we are unable to relieve the most pressing symptoms due to the pyloric stenosis by the ordinary means, as by lavage, etc." "The radical operation has to contend with the difficulty of making an early diagnosis. He who has observed the career of a patient on whom a palliative operation has been performed for a cancerous pylorus, will be no advocate of this procedure." The opinion of a man of Gluzinski's experience, who has no doubt carefully followed up most of the cases of Hydygier, is indeed well worth considering; but he certainly, in my opinion, goes too far.

Every surgeon will do a radical operation for cancer, where the condition of the patient warrants it; but where the growth is extensive and causing an obstruction of the outlet, with damming back of the gastric contents and dilation of the stomach, he will almost certainly do a gastro-enterostomy. In two of my cases such a condition was present. In both cases the vitality of the patients was so reduced that it seemed inadvisable to give a general anesthetic, and the operation was done under cocaine infiltration. They both were relieved of their symptoms immediately, and the shock was very slight. Robson and Moynihan[3] recommend the operation even in mural cancers, where no narrowing of the outlet exists, as the rest thus produced will lessen the pain and retard the growth of the tumor. But these late cases of cancer are very discouraging to treat by any method, and hence I believe that wherever the subject of gastric trouble is not relieved after a fair trial of the regular treatment, the surgeon should explore and do whatever operation the condition indicates. In preparing the patient for operation, it is advisable to cleanse the teeth and mouth and give sterilized food, as recommended by Harvey Cushing, for two or three days before operation. Lavage is useless in some cases, while in others it is almost indispensable. If the contents of the stomach are foul, it should be washed out twice daily, if possible, for a day or two before the operation. It is well to get the patient accustomed to this little procedure, as Terrier[4] advised, for it is sometimes necessary to do it after the opera

tion, and it is then effected with much greater safety and less discomfort than would otherwise be the case. A purgative is seldom necessary, an enema being in most cases all that is needed. Where there is much emaciation, nutrient enemata, and the hypodermic infiltration of a pint or two of normal saline solution is useful. Barker[5] recommends the addition of 5 per cent. of glucose to the saline.

As to the anesthetic, gas and ether, to me, are the most acceptable. If, however, there is very great loss of vitality of the patient, I would strongly advise the infiltration of a one per cent., or one-tenth of one per cent. solution of cocaine. The two cases on which I operated in this way would scarcely have recovered had a general anesthetic been given. The shock was practically nil, and the pain endured by the patients was very trifling. If general anesthesia be used, it need not be kept all the time, as there is pain only when the abdomen is being opened, and the parietal peritoneum handled. There is a disagreeable sensation when the stomach or mesentery is being dragged in.

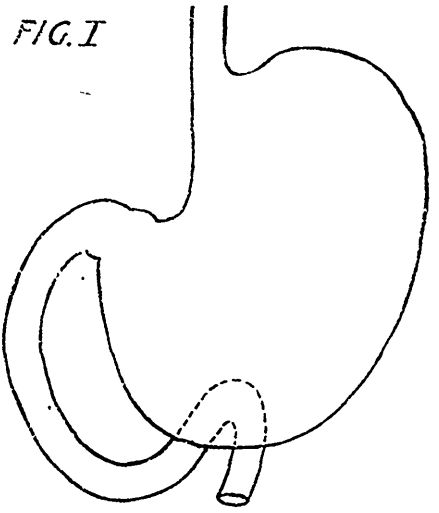
As to the method of operating:—Kocher[6] is perhaps the greatest exponent of the anterior method. He says, "The anterior gastro-enterostomy of Wöffler, with or without modifications, is by far the simplest operative procedure, and it is worthy of note that surgeons like Bergmann and von Mikulicz have gone back to this method." From what Mayo[7] says, it would appear that von Mikulicz now prefers the posterior operation. Kocher recommends making the anastomosis at the most dependent part of the anterior surface of the stomach near the pylorus. A point of the jejunum 40cm. from the duodeno-jejunal fold is taken, the bowel is placed on the lower part of the anterior surface of the stomach at right angles to its long axis, and the anastomosis made with sutures. His results have certainly been excellent. Scloffer[8] reports 23 cases operated on in Wöffler's clinic by his method with one death. In each case the jejunum was taken one-half metre from its origin and anastomosed to the most dependent part of the anterior surface. The opening between the two organs was 5cm. (2 inches) long.

The posterior operation of von Hacker, however, is the one most popular to-day. It is recommended by Czerny, Hans Kerr, Terrier, Hartmann, Robson, Moynihan, Barker, Dalziel, Rodman and many others, and was the one done in three of my cases. The usual methods for making the anastomosis are:—(1) Simple suture; (2) Murphy's button; (3) Robson's bone bobbin. McGraw speaks very highly of the elastic ligature, and Willy Meyer also has used this method with success. All sorts of appliances have been devised, in order to shorten the operation, since Senn introduced his decalcified bone plates in 1887.

Personally I prefer the simple suture. It is always at hand, gives perfect junction of the parts, and with care there need be no soiling of the surrounding tissues. Mayo[9] uses the posterior suture operation over the bone bobbin for benign obstructions, and the anterior method with the Murphy button in malignant disease.

Terrier, Roux, Hartmann, Barker and many others use the suture entirely, while Czerny and Rodman follow Murphy in using the button with the posterior method.

Petersen[12] in speaking of the von Hacker operation, as performed in Prof. Czerny's clinic, says, "When we see that in



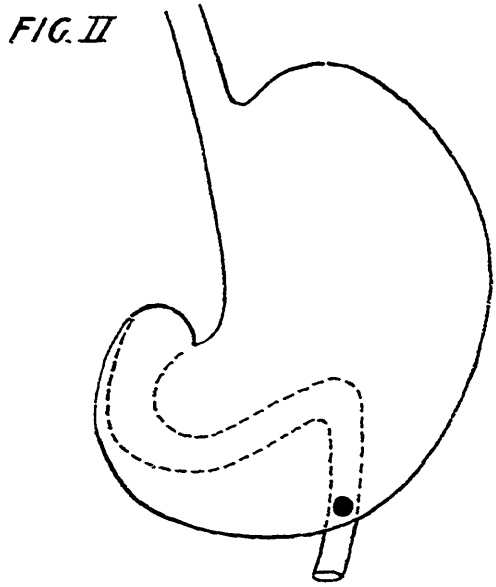
(PETERSEN)

the Breslau clinic (Chlumsky, Diese Bietrage, Bd. XX.) there were eight cases of reflux in a series of 43 operated on by von Hacker's posterior method, and in 215 cases operated on in the Hiedelberg clinic in a similar way, there was not one case of serious reflux, it is strong evidence that the reflux depends on a difference in the technique, and not on accidental causes. He cites von Hacker as reporting 60 cases without reflux. Petersen injected the stomach and upper part of the small intestine of a large number of cadavers with different hardening fluids, such as formol and paraffin. He found that the axis of the stomach was not vertical, as maintained by Doyen, Rosenfeld, Chlumsky

and others, but was directed obliquely from the left above to the right below. The two real fixation points were the cardiac end of the stomach and the horizontal portion of the duodenum. Normally, the lowest part of the greater curvature of the stomach lies a short distance below the duodeno-jejunal fold.

When the stomach is dilated, this distance is increased.

The point chosen for making the anastomosis should be the lowest part of the posterior surface. The jejunum is opened just far enough from its origin to reach this opening. Figure III also Fig. II show lateral views of the anterior and posterior methods. Czerny[13] in order to prevent the Murphy button



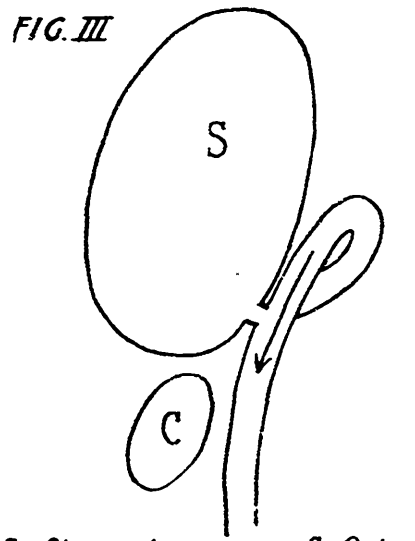
from falling into the stomach, has had the half of the button which goes into the stomach made smaller and lighter than the intestinal half.

One of the greatest bugbears of gastro-enterostomy has been the regurgitation of the intestinal contents into the stomach, and it is in order to avoid this that so many different operations have been devised. Roux of Lausanne, taking a hint from Wöffler, devised his Y operation, which consists in dividing the jejunum one or two feet from its origin, and implanting, first, the distal end into the lower part of the posterior surface of

the stomach, and then the proximal end, into the side of the distal portion of the bowel.

This has given him a very large percentage of recoveries. In 1898 Roux[11] with his Y method reported 24 cases without a death. He uses three rows of sutures, the two outer of silk, and catgut for the mucous membrane. Two anastomoses are necessary in this operation, yet its author performs it very quickly. I have seen him do it in 15 minutes, and he has done it in much less time. Two of my cases were done by this procedure and the results were perfect.

Tavel[14] carefully reviews the subject of reflux in gastro-



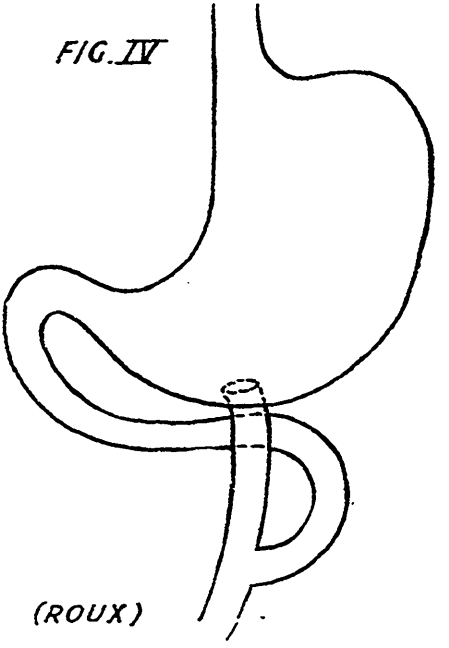
enterostomy. He speaks strongly in favor of the Y operation of Roux. He cites a very interesting case which illustrated the value of this procedure to the disadvantage of the Kocher, and of Wöffler-Braun-Jaboulay method, as both had been tried without success. It took five operations before a cure was effected.

Doyen[15] recommended the Y operation, but makes a lateral anastomosis of the proximal portion, with the distal portion of the bowel.

In order to obviate this trouble of reflux, Finney[16] devised a method of pyloroplasty or gastro-duodenostomy. This increases

the pyloric opening downwards for about 2½ inches. Mayo[17] reports 28 cases done in this manner with one death. The results of this operation have been very satisfactory so far. I have had no experience with it.

In my operations, the anastomosis has been made with three continuous rows of silk sutures. In all, except the second case, every fourth stitch was reversed, so as to prevent the stitches acting as purse strings. The opening in the von Hacker operation was two inches in length. In most of the cases an elliptical piece of the mucosa of the stomach was removed, as suggested by Moynihan. In joining the mucosa, I think it much



better to use fine catgut, a thread takes some time to be separated, and it may act as an irritant to the mucosa. In one of my experimental operations in which a partial gastrectomy had been done by Kocher's method, the dog had an enormous appetite develop three weeks after the operation. It seemed almost impossible to satisfy his hunger. When killed, at the end of four months, I found that the fine silk had not completely separated, but formed a loop in which were entangled several straws. A nice little brush was thus formed, which irritated the gastric mucosa. This might occur in the human subject, although the brush would probably be of a different nature.

The following short cases will probably describe the cases sufficiently for the purpose.

CASE 1.—Mrs. P., aged 36. *Symptoms.*—Vomiting at frequent intervals during the last six months. A pain in stomach, fever, loss of appetite and weight, together with tumor in region of gall bladder. The stomach was dilated. *Provisional diagnosis*—Chlolelithiasis, with adhesions of pylorus, probably cancer. Operation January 6th, 1902. The tumor proved to be a cancerous growth on the outer side of the gall bladder, and on the under surface of the liver from the free border of which it projected 1½ inches. Small secondary deposits on the under surface as well as the upper surface of the liver beneath the ribs were seen. Surrounding the pylorus were dense adhesions which bound it to the liver and caused a kinking of the duodenum, with dilatation of stomach. There was a horseshoe kidney with its convexity upward. No other abnormalities were present. Von Hacker's operation was done, the patient recovered rapidly, sat up on the twelfth day, and left the hospital six days later much improved. No pain or vomiting was observed after the operation. She returned to the hospital on February 20th, complaining of irregular fever and weakness. There was some dullness at the base of the right lung. The growth had increased in size, but no symptoms referable to the stomach were seen. She informed me that she had been feeling very well indeed until a few days previous to her admission into the hospital. She got rapidly worse, and died February 28th, 1902, fifty-three days after the operation. The autopsy showed primary cancer of the liver, with secondary growths in liver and right lung, together with a small empyema at base of right lung. Careful examination of the stomach, pancreas, intestines and rectum failed to show any abnormalities. There was a small supernumerary spleen and a horseshoe kidney. The anastomosis between the stomach and jejunum was of good size and had drained the stomach perfectly.

CASE 2.—M. H., aged 42, female. *Symptoms.*—Pain, vomiting, dilated stomach, tumor in pylorus, great emaciation, had lost 40 pounds in the last year. Duration of symptoms two years. Stomach contents, foul-smelling blackish fluid containing undigested food, strongly acid, no free HC ^{1}, but lactic acid blood and sarcanic. *Diagnosis.*—Cancer of pylorus. Operation September 11th, 1902, under cocaine. Present a tumor of the pylorus, enlarged lymphatic glands along the lesser curvature of the stomach, but no secondary nodules seen in the liver, von Hacker operation. *Result.*—Immediate relief of all symptoms, with gain in weight and spirits. Left hospital on eighteenth day. She continued to improve and was able to

walk around the house until the middle of November, when gradually got worse with a return of some of her old symptoms. She died November 28th, 1902, seventy-eight days after the operation. A partial autopsy was allowed. The tumor at pylorus was larger than at time of operation. Secondary nodules present in the liver; an anastomotic opening contracted three-quarters of an inch in diameter. An ulcerated area was found in the mucous membrane of the pars pylorica. Microscopic section showed it to be cancer.

CASE 3.—W. E. A., aged 40, a commercial traveller. *Symptoms.*—During the last twelve years had pain after eating, vomiting, excess of acidity. Pain very severe at times during the last year. Stomach markedly dilated. Lost about 30 pounds in weight. *Examination.*—Thickening of pylorus, splash; peristalsis, with retention of large quantity of blackish, foul-smelling sour fluid, and undigested food. Test breakfast showed free HCl, sarcinae, but no lactic acid. Operation October 11th, 1902. Present, thickening of pylorus and some adhesions. The posterior operation of Roux *en* Y. *After result.*—Entire absence of all symptoms, gained in weight and spirits. Patient got up on the eighteenth day, and left the City Hospital three days later. On November 8th, one month after the operation, he developed a phlebitis in the right leg, which confined him to bed for about ten days. He got up and wore a flannel bandage. Early in December he left the city, feeling perfectly well as regards to his stomach, but complained of swellings of his legs. I have received several letters from him from time to time. He has been practically as well as ever, is working all the time and weighs 153 pounds, a gain of 34 pounds since the operation.

CASE 4.—J. C., aged 75, a mill operator. *Symptoms.*—Indigestion and gradual loss of weight during the last year. For the last seven months the pain became more prominent, and was associated with frequent vomiting and great loss of weight and strength. From December, 1901, to November, 1902, he lost 68 pounds. A tumor was discovered in May, 1902. At this time there was markedly dilated stomach, damming back of the contents, with vomiting of foul-smelling acid fluid containing remnants of undigested food. A test meal showed free HCl, but no lactic acid or Boas' bacilli.

In October, 1902, the case came under the care of Dr. Glassco, who kindly asked me to see the patient. There was very marked emaciation, stomach dilated and extended two inches below the umbilicus, well marked peristalsis and splash, with a small hard lump at the pylorus. He refused operation and was removed from the City Hospital. He returned to the Hospital, November 5th, for operation. He had been confined

to his bed for two months, weighed 97 lbs., and was mentally dull. November 6th, 1902, cocaine anesthesia. Present, a growth, size of hen's egg, occupied the pylorus. Stomach was enormously dilated. The glands of the lesser curvature were enlarged and hard, no secondary nodules in the liver. The von Hacker operation was performed. Patient had very little shock and improved rapidly after the operation. He was able to get out of bed on the tenth day, and left the hospital on the thirteenth day wonderfully improved both physically and mentally. This man, who had been confined to his bed for two months, was able in less than two weeks after the operation to walk all around the ward without assistance.

Dr. Glassco furnished me with the following notes of his case subsequent to operation: "After leaving the hospital the patient made a steady gain in strength and weight (20 lbs. in four months) and from being an absolutely helpless old man, unable practically to take any kind of food without vomiting, he became able to do light work, and eat and enjoy almost anything. On March 1st, 1903, however, after eating a large meal of pork and canned corn, he was attacked by a severe enterocolitis, and in spite of every attention, he died, March 8th, presumably from the effect of the diarrhea."

We were allowed to make an examination of the abdomen a few hours after death. The stomach had returned almost to the normal size. The growth, which involved the pylorus, had contracted the outlet so as to prevent only the transmission of a lead pencil. There was an elongated ulcerated area 2½ by ¾ inches in extent. The artifical opening was roomy and union perfect The microscopic section of the growth made by Dr. Bauer proved it to be cancer.

CASE 5.—This case was referred to me (for operation) by my friend, Dr. Jas. Anderson, of this city, who kindly supplied me with the notes.

C.K., aged 32, a tailor. A small slight man. Symptoms, of four months' duration, consisted of pain in abdomen, usually an hour or two after meals. There is a feeling of distension with sour eructations, loss of appetite, followed later by vomiting of retained and undigested food. He was treated by various physicians for hyperacidity. On March 22nd, 1903, he consulted Dr. Anderson, who found a dilated stomach, which extended two inches below the navel, together with a small hard growth in the region of the pylorus. Peristaltic waves were distinctly seen beginning at the fundus and extending towards the pylorus. A tube was passed and about a pint of grumous, sour-smelling fluid removed. This contained lactic acid but no free HCl. He looked very pale, had a weak pulse, had eaten almost nothing during the last week or two, and since

November last had lost 24 pounds. The urine contained neither albumen nor sugar. Operation, March 30th, at St. Joseph's Hospital. Present, enlarged fibrous thickening of the pylorus, size of a hen's egg. The lymph glands along the lesser curvature were enlarged though not very hard to the feel. It was considered one of ulcer, with probable malignant formation. Owing to the debilitated condition of the patient, it was considered wise to make the Y anastomosis. The patient made a speedy recovery, sat up on the fourteenth day, and left the hospital one week later. All of his symptoms disappeared, and he returned to his work six weeks after the operation, having regained during this time about 24 pounds. Dr. Anderson told me a few days ago, that on examination, the growth could still be felt, and occasionally there was a little disturbance of his digestion, but nothing of importance.

The success of these operations has been due in great part to the able assistance of my friends, Drs. Malloch, Glassco, Rogers and Anderson.

NOTE.—Case 5 developed pain and distress in gastric region in the latter part ef October. The lump in abdomen was found by Dr. Anderson to have increased in size. He gradually became worse, developed cachexia and died Jan. 2nd, 1904. At no time was there any vomiting or obstructive symptoms. No autopsy was allowed. This was a case of cancer.

1. British Medical Journal, Aug. 1st, 1903.
2. Miteilungen a.d. Grenz. d. Med. u Chirug., Bd. x., s.i.
3. Surgical Treatment of Diseases of the Stomach, p. 82.
4. Revue de Chirurgie, Avril, 1902, p. 376.
5. The Lancet, Aug. 23rd, 1902.
6. Chirug. Operations Lehre, Vierte Auflage, s. 308, 190.
7. Annals of Surgery, July, 1903.
8. Beitrage zur. Klin, Chirug, Bd. xxxii., 1902.
9. Annals of Surgery, July, 1903.
10. Beitrage zur Klin. Chirug, Bd. xxix., s. 598.
11. Revue de Chirurgie, 1898, p. 1,110.
12. Beitrage zur Klin, Chirurgie. Bd. xxix., s. 598.
13. *Ibid.*
14. Revue de Chirurgie, 1901, p. 685, *et seq.*
15. Revue de Chirurgie, Th. 18, 1898, p. 1,112.
16. Johns Hopkins Hospital Bulletin, July, 1902.
17. Annals of Surgery, July, 1902.

REPORT OF CASE OF CESARIAN SECTION.

BY FRED. C. STEVENSON, M.D., BRADFORD, ONT.

I was called 7 a.m., January 30th, to attend Mrs. B. H. in her third confinement. She is a small woman, 4 feet 9 inches; weight about 115 pounds when in good health; thirty-five years of age; her first two confinements had been hard instrumental cases, both children alive. I found she had been in labor since 5 p.m., January 29th; os well dilated, with the head, a large one, above brim of pelvis; pains had stopped for over two hours when I saw her. She presented a very peculiar appearance; abdomen protruding forward to a point; she claimed her last menstruation period had begun February 4th, 1903, lasted nine days, and she thought she became pregnant March 1st, 1903; said she had felt vigorous movements of fetus for nearly seven months. If she is right in her dates, pregnancy must have lasted eleven months. A dose of ergot brought on the pains again about noon. I then ruptured the membranes, but there was only a little over half a pint of amniotic fluid, quite thick and turbid with meconium.

Sending for Dr. Campbell to administer an anesthetic, I tried to deliver her with the instruments, and although I used as much force as I dared, I could do no good, nor could Dr. Campbell, who also tried. We then held a consultation as to what had best be done. The child's head was very large and solid, the maternal passage very small. We came to the conclusion that the risk to the mother would be less to attempt Cesarean section than to do an embryotomy. We therefore telephoned Dr. Cummings, of Bond Head, to come at once, and made hasty preparations for operation. The house was a mere shack, with very unsanitary conditions prevailing both inside and out. Clean sheets, towels, wash-basins and lamps were gathered from the neighbors; a plentiful supply of water was boiled and saline solution prepared. The patient was prepared as well as possible, and we commenced the operation, with two neighboring women holding the lamps. Dr. Cummings gave chloroform, Dr. Campbell assisting me. The incision commenced three inches above umbilicus, and extended six inches below in the median line; all bleeding being controlled; packed long strips of plain gauze wrung out of a $\frac{1}{20}$ carbolic solution all around the uterus, which protruded well into wound; the incision in uterus was made the same length, nine inches; walls of uterus were found to be fully an inch in thickness; hemorrhage was profuse, but controlled by torsion. Dr. Cummings had now given her hypodermics of ergot and strychnine, and also was administering saline solution under the breasts. All bleeding being checked, the membranes were torn open, the child delivered, cord tied as quickly as possible, then the placenta and mem-

branes; in spite of our gauze packing, some blood and amniotic fluid escaped into the abdominal cavity, so we flushed out abdomen with normal saline till it came away clear, and left in as much as it would hold. Uterine wound was closed with continuous suture of medium heavy silk After all oozing had stopped, apron of omentum was drawn down over anterior surface of uterus; closed abdominal wound in two layers with silkworm-gut sutures; Bis. form. iodid. dusted on freely, pad of iodoform gauze held in place firmly with adhesive strapping; a layer of absorbent cotton with binder completed the dressing. She came through the operation in good shape, seemingly not suffering from any shock. For first twenty-four hours she was allowed nothing by the mouth except sips of water; saline enemas, 8 oz. at a time, were given every four or five hours; then for forty-eight hours she was allowed ℥i of bovinine in a little water every hour, after which she was allowed milk and soup in moderation. A vaginal douche every six hours, and urine per catheter at same time. For six days we had no rise in pulse or temperature. She had had some swelling and numbness of left leg for some time previous to her confinement, but was in no pain. On the night of sixth day she complained of pain in the veins of that leg, temperature went up to 101° and pulse to 108; dressing removed, and wound was found to be healed. As there was no sign of irritation about the sutures they were not disturbed. A mixture of ichthyol, belladonna and glycerine was applied to left leg and thigh with hot flannel stupes over it, and bowels freely moved with magnesium sulphate. This treatment was kept up for a week, when phlebitis subsided, and temperature and pulse soon became normal again and she has since made an uninterrupted recovery.

I may here state that the child, a strong, healthy boy, weighed 9½ pounds; he was kept at the breast till his mother had no more nurse for him, the course of magnesium sulphate seemed to "dry her up."

The child's head measured transverse diameter, 4½ inches; occipito frontal, 5½ inches; postfontanelle completely closed; anterior open but small; cranial sutures firmly knit.

The results in this case are all that could be desired, mother and child being strong and well. The mother said she was free from pain and soreness within twenty-four hours of operation.

It seems to me that this is an operation that might be more often performed with advantage to both mothers and infants. How many women might be spared troublesome lacerations with all their ill effects, and how many infant lives might be saved!

Bradford, Ont., Feb. 24th, 1904.

SERUM AND SEPTICEMIA.*

BY F. ARNOLD CLARKSON, M.B.

Since Dr. Oliver Wendell Holmes in America, and Semmelweis on the Continent, introduced ordinary cleanliness into lying-in hospitals, the mortality of child-bearing has gradually fallen, till the aseptic precautions now in vogue have reduced it to a fraction of one per cent. But in private practice the number of cases of sepsis is still very large, perhaps as large as thirty years ago; but the type seems to be less severe, due, no doubt, to the use of antiseptics. Bacon[1] estimated that of all women dying in Chicago between the ages of twenty and fifty in the year 1895, 7.3 per cent. died of puerperal septicemia.

The treatment of this condition is still the *bête noire* of the medical profession, and no sure advance has been made during the last quarter of a century. A simple enumeration of the various remedies which have been advocated would occupy several pages. Success from the method of treatment has often been reported, and perhaps it was due to the medicines administered; but in this disease, oftener than in any other, a most hopeless case will sometimes recover spontaneously. The mortality is very high, regardless of the treatment adopted. Death in a few days is the result in a large percentage of cases.

When antistreptococcic serum was introduced a few years ago, we hoped that we had entered a new era, when we would be able to slay this terrible dragon at will; but after a careful trial the serum has not fulfilled our expectations, and we are still without a specific. Nevertheless, when one meets a case of septicemia of streptococcic origin, this remedy suggests itself, and good results sometimes follow.

The following case is reported, because of the large amount of serum which was used in conjunction with the routine medical treatment.

History of case.—Mrs. M., aged 30, married nine years; one child seven years ago. When twelve years old she was struck by lightning, and was in poor health till her marriage; family history excellent; both parents still living; patient was born when her mother was forty-five years of age.

Previous labor.—In January, 1896, she was delivered by forceps of a large female child, breach presenting. The labor was most difficult, the cervix being lacerated, and the perineum torn through into the rectum. Both were repaired immediately

* Read at meeting of the Toronto Medical Society.

1 Bacon: The Mortality from Puerperal Infection in Chicago. *Amer. Gyn. and Obst. Jour.*, 1896.

but the cervix failed to unite. Five months later she had a severe mammary abscess. After this confinement she suffered from pain in both ovarian regions, especially severe an hour or two after coitus. She also had a slight vaginal discharge.

Physical examination.—Patient small but well proportioned; pulse 90; stomach and right kidney prolapsed. A vaginal examination in May, 1902, revealed an enlarged uterus. She menstruated last on March 13th. The course of pregnancy was uneventful. Owing to the difficulty experienced in the previous labor from the large child, a modified diet, after Prochownick's method, was adopted in the last three months. The urine at no time showed any albumin, and the total solids were always normal in amount.

She entered hospital on December 15th, expecting to be confined on December 17th, but labor did not begin till January 14th, 1903, and was normal in every respect, except that more blood was lost than usual (about 8 oz.) which we attributed to the chloroform used to a slight extent during the perineal stage of labor. The uterus contracted well, and there was only a small abrasion of the vaginal mucous membrane. No douches were administered either before or immediately after parturition.

Her temperature for the first eight days was always slightly above normal, averaging 99.2°, with the pulse at 90, which was normal for her. On the ninth day, at 6 p.m., the temperature rose to 102°, but returned to normal after a brisk purgation. On the tenth, eleventh and twelfth days the temperature steadily rose till the nature of the disease was no longer obscure.

On the second and on the fourth days she complained of slight headache. On the sixth day this was so severe as to require phenacetin. She had no sleep on sixth night.

During this time the breasts were very painful because of distension. The lochia for the first six days were normal in quantity. On the seventh day there was a lessened amount of discharge with a slight odor.

On the ninth day, however, the patient felt so much better that she sat in a chair while the bed was changed. Towards evening the lochia became very offensive, and a hot douche was given. At 6 p.m. she had a severe chill, lasting twenty-five minutes, followed by nausea and vomiting.

Next morning, after free catharsis, the temperature was normal, but by evening had again risen to 100°.

On the eleventh day, with the temperature still rising and the pulse 100, an intra-uterine douche was given, but the water returned clear. During the night she had two severe chills, each lasting twenty minutes.

Dr. Silverthorn saw her in consultation on the twelfth day.

The uterus was gently scraped with the finger, flushed with sterile water and packed with iodoform gauze, the patient being under chloroform. Practically nothing was found but a few shreds of tissue, and these were unfortunately destroyed so that no bacteriological examination of them was possible.

The diagnosis was septicemia, probably arising from an old salpingitis, and the patient was given nutrients, stimulants, normal saline by the bowel, an iron mixture, and antistreptococci serum subcutaneously. We began with 10 cc. on the twelfth day, all we could obtain in the city at that time. The next day the patient received 50 cc. in three injections. For the eight following days she received from 20 cc. to 110 cc. in twenty-four hours. The largest injection given at one time was 50 cc.

On the twentieth day of the disease (February 3rd) she received a total of 110 cc., which produced a general urticaria, persisting for three days with a great deal of annoyance to the patient. For the four days following this large dose the temperature gradually fell, till on February 7th it reached normal. The pulse also improved a good deal.

On February 8th, however, the temperature again rose to 103°, and resumed its erratic course till the death of the patient on the forty-fourth day after confinement. The injections were kept up at intervals till the forty-first day. Altogether 935 cc. of serum were administered, chiefly in the thighs and buttocks, no abscesses developed, nor were the sites of operation painful.

The blood examination on February 3rd showed reds, four million; whites, six thousand: and hemoglobin, 65 per cent.

On the twenty-second day she developed phlegmasia of the left leg, followed ten days later by the same condition in the right. There was, however, very little pain.

The only other point worthy of record was a petechial rash which covered the whole body, appearing on the twenty-ninth day and lasting seventy-two hours. The discrete, punctate hemorrhages gave rise to no discomfort.

On the forty-first day the temperature rose again to 101 degrees, accompanied by pain, dyspnea and other signs of pneumonia, and the patient succumbed on the forty-fourth day after labor. No autopsy was obtained.

The effect of the serum was hard to demonstrate; it may perhaps have supported the heart, for the pulse was always good, but beyond a slight decrease in the temperature after injection it had little effect upon either the pyrexia or the rigors.

The points of peculiar interest in this case are: (1) The slight post-partum hemorrhage. A number of recorded cases

of puerperal sepsis have noted a larger quantity of blood than usual. (2) The late onset, ten days after confinement. (3) The length of the illness, in spite of the severe nature of the disease. The temperature several times reached 107.2 degrees (4) The tolerance of alcohol, an observation often made in septic cases. This patient took very large doses of whiskey and of champagne without the slightest sign of intoxication.

In diphtheria as high as 25,000 units of antitoxin have been given, and we persevered with this serum because we were unable to find any reports of the effect of large doses. Of course the mode of action in the two sera is different, the efficiency of the streptococcic serum seeming to depend upon the increased phagocytosis which it establishes. In acute cases the best results have been obtained from large doses of serum prepared from a streptococcus of human origin. Unfortunately there is yet no way of arriving at a standard as in antitoxin, and the only measure of its potency is upon the individual.

In regard to the bacteriology of this disease, it is possible that, although the streptococcus may be found in the lochia, it may be present only as a saprophyte, and the septicemia may be due to the gonococcus from an old pus tube or to some other bacterium in another undiscovered focus.

Great stress is laid, too, on the bacteriological examination of the blood, but this is not always helpful to the diagnosis. Houghton[2] has shown that approximately normal blood contains pyogenic bacteria in a greater or less degree, and concludes that the bacteriological examination is of very little value in the diagnosis, prognosis or treatment, because organisms found in the blood to-day may be absent to-morrow.

There is one contra-indication for the use of antistreptococcic serum. When there is a walled-off collection of pus, the serum increases the absorption of the toxic products. A persistent absence of leucocytosis may also be regarded as a sign of ill omen.

[Reports of this kind are very valuable, and I should like to get as many as possible. I do not, however, agree with some of the conclusions. The onset in this case was not late (in my opinion). The most common symptoms of sepsis were present from the second day and thereafter, viz., headache, sleeplessness, high temperature, and rapid pulse (a persistent pulse-rate of 90 for nine days after should never be considered normal). As to the serum, I think that if two doses of 20, and 10 cm. within twelve hours do not cause a decided improvement, further administration will do no good, and is likely to do harm.—A. H. W.]

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2 Houghton: *Jour. Amer. Med. Assoc.*, Vol. 41, page 933, and *Postgraduate*, New York, September, 1903.

Progress of Medical Science.

MEDICINE.

IN CHARGE OF W. H. B. AIKINS, H. J. HAMILTON, C. J. COPP AND F. A. CLARKSON.

The Dose of Antitoxin.

A common practice in this country has been to administer 500 antitoxin units as an immunizing dose. By many this dose is considered inefficient, and some, in all suspected cases and as a prophylactic, administer 1,000 units. Unquestionably this is the better practice. There is no reason to think that any harm results from the larger dose, and if it is desirable to immunize the quantity employed should be sufficient to meet the indications. In the treatment of the slightest cases from 1,000 to 2,000 units have been employed, and in the more severe, where the nose or larynx is involved, or where there are persistent membranes upon the tonsils, it has been common to employ 4,000 units. The statistics in this country, both in hospital and private practice, show a very marked lessening in the mortality from diphtheria, the results being largely related to the time at which the injections are made. If a sufficient immunizing dose is employed on the first day there is practically no mortality, the second day the mortality is slightly greater, and after the third, fourth and fifth days there is a corresponding increase. The dose employed in this country is much smaller than that commonly used in England, and the charge is made by English writers that the failure to save advanced cases of diphtheria, some of which are almost moribund, is due to the fact that the antitoxin is given in too small doses. It is by no means infrequent in English hospitals to administer 10,000 or 20,000 antitoxin units to severe cases of diphtheria. The statistical results in these cases are certainly far ahead of that reached by American pediatrists in the treatment of severe forms of diphtheria. Unquestionably the smaller dose in the early stages is quite sufficient, but where the disease has gained some headway, the antitoxin must be used with a free hand if life is to be saved.—*Medicine.*

Wine and Alcoholic Beverages in Dyspepsia.

Dr. Albert Mathieu (*Revue de thérapeutique*) considers that the routine use of alcohol in gastric disorders is not to be tolerated, though Boas has shown that in small quantities it stimulates stomach digestion. Alcohol, when injected directly into the organ, has a direct action upon its lining and a chemical action upon its contents. Linossier has shown that alcohol

diminishes the peptonizing power of the gastric juice and has the same action upon the trypsin. Alcohol also retards the inversion of saccharose in the presence of beer yeast. Dastre has proven as well that it also interferes with pancreatic digestion. It is therefore evident that in marked gastric lesions, such as ulcer, cancer, gastritis, with congestion of the peptic glands or atrophy of the same, alcohol is contra-indicated not only because it retards digestion and increases the pain, but also since it aggravates the lesion. The patients who appear to be benefited by the use of alcohol are those whose stomachs lack motor power and who have a sensation of weight or inflation after eating. Such find relief from a small glass of cognac or liqueur at the end of a meal. It is probable, however, that even in these cases the habit increases their disease in the end. They may better take a glass of hot, well diluted, red or white wine during or after the meal from time to time. The author believes that patients troubled by acid regurgitation may be relieved by taking white wine, preferably sparkling, well diluted. Wine, especially red wine, increases the discomfort of those with a tendency to gastric stasis and distress. In all cases the use of wine should be left off and renewed from time to time if it is to produce its best effect.—*American Journal of Medical Science.*

The Nature and Medical Treatment of Spasmodic Asthma.

In a paper read before the Manchester Clinical Society, and published at length in the *Medical Chronicle*, Arthur T. Wilkinson considers his subject under three headings:

1. The condition of body which makes the attack possible.
2. The exciting causes.
3. The attack itself.

He regards asthma as an abnormal condition of a normal protective reflex similar to vomiting, both act in a similar manner in specially susceptible persons. All persons do not vomit after an indigestible meal, nor do all have asthma after a peculiar stimulus to the respiratory passages. The afferent disturbing impulses may descend from the brain or travel up from the ultimate parts of the body to the centre concerned. Still in almost all etiological lists it will be found that the bulk of the causes are rare, and some two or three groups practically are responsible for all the cases ordinarily met with, and the vast majority of these are in association with the respiratory tract. Superfluous tissue in the nostrils and post-nasal adenoids themselves, or as the nidus of manufacture of the exciting cause undoubtedly give rise to asthma, though the majority of cases treated for such have to return to the physician. When such is the case he speaks very highly of arsenic given as Fowler's sol.

℥. iii., raised to ℥. v. t.d.s. p.c. and continued for several months: and next to this Pot. Iodid gr. v. t.d.s. et. h. s. for a long period. He does not consider hydriodic acid as in any way superior, and recommends when diminishing dose to continue last dose of the day and discontinue earlier.

He regards most cases as having a definite exciting cause, the discovery of which is essential to cure: and draws particular attention to the external or rarer causes, and claims that when the patient's troubles are marked sneezing and coryza, one should expect a particular cause. The more gross the irritant the less likely are we to have typical bronchial spasm. Citing the usual causes, he draws particular attention to the emanations from animals—horses, cats and dogs, also birds—and especially when these are shedding their coats, and claims that many persistent "colds" may be due to such apparently trivial causes.

Persistent asthma probably means a persistent cause, and may lie within the patient, such as an abnormal condition of the respiratory mucous membrane or some circulating toxin.

In the treatment of the attack itself he speaks highly of hot applications between scapulæ and in front of the chest; also of the nitrates, especially the potassium salt. He does not think there is any advantage in combining it with belladonna. In the nitrites he has been disappointed and deprecates the use of chloroform and morphine except in selected cases. C.J.C.

Some New Light on the Blood in Malignant Disease.

Dr. Ernest Cunliffe (*Medical Chronicle*, Manchester) gives in brief the result of a year of fellowship work in the blood in carcinoma and sarcoma. He examined a large number of cases by the simplest and most reliable of known laboratory methods, and in the conclusions he is able to draw brings into prominence several facts of interest, including the attaching of importance to the frequency of leucocytosis.

The following are the results of his observations:

1. There is a constant decrease in the hemoglobin and hemoglobin index.

2. The number of red cells is unaffected until the case is advanced or has suffered loss through hemorrhage.

3. *Leucocytosis is the rule.* It is caused especially by hemorrhage, metastasis, ulceration and septic infection. It may be absent, however, throughout. Its sudden occurrence in such an instance indicates the probability of a metastasis.

4. The poly-morpho-nuclear neutrophils are increased in number. This feature may be present without the total number of leucocytes being raised, and in this relation points to the presence of malignancy. It is therefore a diagnostic sign of importance. H. S. H.

SURGERY.

IN CHARGE OF EDMUND E. KING, GEORGE A. BINGHAM, C. B. SHUTTLEWORTH AND F. W. MARLOW.

Carcinoma of the Colon and its Treatment by Colectomy.

A most interesting paper on this subject, written by Mr. Bilton Pollard, Surgeon University College Hospital, London, appears in the *British Medical Journal*, of January 23rd, 1904. Abstracts of seven successful cases are also given.

Mr. Pollard observes that columnar-celled carcinoma, as it occurs in the intestine, is apparently the least malignant of the carcinomata, it being a well-known fact that carcinoma of the rectum or of the colon may persist for a long time without greatly impairing the health, unless it gives rise to obstruction of the bowels, or leads by local extension to some grave complication; and as implication of neighboring lymphatic glands or the occurrence of metastatic growths is, as a rule, only observed in the late stages of the disease, there is a well founded hope that if such cases can be dealt with in the early stages, when the patient is still in good condition, a large percentage of permanent cures will result.

Early diagnosis of such cases is, however, by no means an easy matter, for the onset is so insidious that such disease is frequently not suspected until it is far advanced, or until a tumor is discovered, or an attack of acute intestinal obstruction occurs. Hence a thorough systematic physical examination of the abdomen is imperative in all cases of chronic illness associated with dyspeptic symptoms.

The nature of the disease is such that the symptoms attending it are the results of some impediment to the passage of the intestinal contents. Indigestion, accompanied sometimes by nausea and sickness, is one of the commonest symptoms, and an almost constant one is marked flatulence, arising, no doubt, from partial retention and decomposition of intestinal contents. If retention is a marked feature, constipation will ensue, with the probable formation of scybalous masses on the proximal side of the growth, and by irritating the mucous membrane and so inducing an effusion of fluid into the bowel, these scybala give rise to a spurious diarrhea, so that alternating constipation and diarrhea is a very frequent symptom in such cases. In most cases pain occurs sooner or later. It is extremely variable in severity and as it is evidently due to intestinal colic it may or may not be localized and is not necessarily most marked in the region of the growth. Loss of flesh is not a marked feature in the early stages, but must

necessarily occur later. If such symptoms are accompanied by hemorrage from the bowel, either in the form of melena or as unaltered blood, the disease may be diagnosed with a fair degree of certainty.

A careful physical examination should be made, and in doubtful cases it is better to have the patient anesthetized than to run the risk of missing the tumor. By such an examination, a tumor will be readily detected in the majority of cases, but not so in others, for although a tumor may produce considerable constriction of the bowel, it may be quite small and not easily palpable, and especially will this difficulty be met if it occupies the splenic flexure and is hidden in the left hypochondrium, or the ilio-pelvic colon and hangs down into the pelvis. The transverse colon is apparently seldom affected primarily, so that tumors of the colon are generally situated in the lateral parts of the abdomen—in the hypochondriac, lumbar and iliac regions.

In the early stages of the disease such tumors are always mobile and it is only on the occurrence of secondary adhesions to the abdominal wall or to immovable abdominal viscera, or by implication of the latter by extension of the growth that fixation occurs, and it may happen that if another viscus becomes involved either by adhesions or by extension of the growth, the symptoms and physical signs pertaining to that viscus may to some extent overshadow those due to the original disease in the colon.

In the few cases where a tumor cannot be felt, in spite of the fact that the symptoms are well marked and very characteristic of the disease, an exploratory operation is quite justifiable, and if a tumor is discovered, and removal is not contraindicated, the operation should be converted into a curative one.

In discussing the treatment of the disease, Mr. Pollard advises that in cases of acute obstruction, when it will rarely be possible to feel the growth, the abdomen should be explored through a medium incision below the umbilicus. If the piece of bowel containing the tumor can be withdrawn from the abdomen the obstruction may be relieved by opening the bowel on the proximal side of the growth and tying in a Paul's tube. Later on the piece of the bowel containing the growth may be excised, and still later the continuity of the intestinal canal may be re-established. If the growth cannot be readily brought out of the wound, the obstruction should be relieved by making a temporary artificial arm higher up, and after the subsidence of all acute symptoms the growth may be removed through an incision made directly over it.

With the cases where no material obstruction is present, and

where a tumor can usually be felt, Mr. Pollard deals at length. An incision, which should always be an ample one, is made in most cases directly over the growth. Having opened the abdomen, a thorough examination of the tumor and its connections should be made, and the liver and lymphatic glands should be examined for secondary growths, in order to determine whether or not colectomy is possible and justifiable, and in this connection it should be remembered that mere enlargement of the lymphatic glands does not of necessity imply carcinomatous infection nor contraindicate colectomy.

In cases where colectomy is unjustifiable or impossible, relief may be afforded by the less serious operation of short-circuiting.

The amount of bowel to be removed is determined by considering the extent of the growth, the necessity of bringing the divided ends together without undue tension, and the desirability of carrying on the necessary manipulations outside the abdomen. Fortunately the length of the transverse, and also of the ileo-pelvic meso-colon, is such that these considerations may usually be observed.

The technique of his operation is detailed by Mr. Pollard, and the description is well worthy of careful perusal. In most cases end-to-end union by means of simple suturing, without the use of any mechanical contrivance is, desirable; but in cases where the lumina of the divided ends vary from that of small intestine to that of colon, closure of the divided ends with lateral anastomosis is advisable.

In the after-treatment of such cases, whereas rectal feeding is mainly depended upon during the first week, the patients are allowed a small amount of liquid nourishment by mouth on the day following the operation, which amount is gradually increased until at the end of a fortnight light solid food may be given.

The seven successful cases of which Mr. Pollard gives abstracts, were operated upon from two months to four years previous to the writing of his paper, and as all the cases were in a fairly advanced stage when they came under his notice, his excellent results should be considered to be most encouraging, and would lead surgeons to hope that in future a greater amount of attention will be devoted to the early diagnosis of the disease, for on that depends the possibility of the complete removal of a disease which in the early stages is distinctly localized, and absolutely amenable to surgical treatment.

F. J. W. M.

ORTHOPEDIC SURGERY.

IN CHARGE OF CLARENCE L. STARR.

Pneumococcus Arthritis.

Dunn and Robinson, *Lancet*, August 1st, 1903, report five cases of acute joint infection, in the East London Hospital, in which the pneumococcus was the cause. The ages varied from six months to six years. In two cases the knee was the only joint involved, in two there were multiple joint lesions, and in one the hip alone was affected. In all cases there was marked joint disorganization, although they were all subjected to early operation and thoroughly drained. Three cases died, and autopsies showed no primary focus in the lungs. In one case a pure culture of pneumococcus was obtained from the heart.

In four cases there seemed to be an antecedent cause, viz., pneumonia, bronchitis, otitis media and measles.

The writers conclude that the pneumococcus plays a much more important part in the acute joint infections of children than is generally supposed.

A Study of Good Results in Hip Disease.

V. P. Gibney, *Medical News*, September 13th, 1903, calls attention to the fact that many conditions may be mistaken for tuberculous hip-joint disease, such as trauma, periarthritis, coxa vara rachitic or traumatic, congenital dislocation, psoas abscess, poliomyelitis, etc. In reference to the aim of treatment, he says, "Good results are those with the minimum of shortening, without deformity, and with the maximum range of motion. Results must be studied on a basis of the stage in which well recognized methods of treatment are begun. The keen diagnostician will recognize the lesion before the deformity arises, and at an early stage, while the poor diagnostician will fail to recognize hip disease until the mother of the child has already made the diagnosis herself. Then the second stage, that of deformity, will have been reached, and the advantages of early protection are lost. The tardy recognition of the value of instruction in orthopedic surgery by the medical schools is largely responsible for the destruction of hip joints and the hopelessness of restoring function to joints thus impaired. Now we have reason to hope for better results, because the large and well-equipped schools of medicine have within the last decade established such chairs, and the younger practitioners, who will soon make their influence felt, will increase the number of those who get efficient treatment before the second and third stages are reached. In the third stage we must be content with correcting deformity and eradicating necrotic areas and sinuses."—*Abstract American Medicine.*

Clinical Observations on Backache.

Lovett, *New York Medical Journal*, May 30, 1903, in considering the subject from the point of view of an orthopedic surgeon divides the causes of backache into two groups: (1) Those due to causes existing in the spine itself; and (2) those due to causes outside of the spine, as in the feet. In the first group he puts those static cases which are due to faulty attitude. Describing the correct position as one with the mastoid process directly over Chopart's joint, and the hip joint a little in front of a vertical line joining the two, he states that it requires muscular exertion to maintain such position. Tired persons and those of feeble muscular development manage to substitute ligamentous for muscular support, and to do this the pelvis is pushed forward, the upper portion of the trunk is thrown back, and the chin and head carried forward, giving the attitude so familiar and known as round shoulders. The ligamentous strain which is usually accompanied by overstretching of tired muscles is often accompanied by pain, especially in young women whose nervous resistance is impaired. These cases, obviously due to faulty attitude, are often classed as irritable or neurasthenic spines.

Treatment consists in improvement of the general condition, with rest on the back for a large part of each day. But the real cure is in the development of the spinal muscles and the acquirement of the erect attitude. Gymnastic exercises of the mildest type at first, and gradually increasing in force, following the line of the "setting up" drill of the military recruit.

Also included in the first group are those causes of backache due to *lateral deviations*, for while the ordinary lateral curvature of moderate degree is not painful, there are cases, especially those due to a shorter leg on one side, which are, the pain oftenest being on the stretched rather than on the compressed side. Relief comes by correction of short leg together with gymnastics.

Sprains of the back caused by wrench or jar as in falls, or starting of a carriage, or stroke of golf, the severe form of which is familiar under the name of "railroad spine," are included. The treatment of the milder sprains is by recumbency, restriction of movement, massage, douching and light gymnastics. The severer types, the writer thinks, should be treated as a similar sprain elsewhere would be. A sprained ankle is put at rest in plaster, but a sprained back is put on a sagging mattress. A plaster-of-paris jacket is indicated. *Potts' disease* and *Arthritis deformans* are also mentioned as causes of backache and appropriate treatment suggested.

Passing to the causes of backache existing outside the spine, the writer mentions the several types of mechanical difficulties

of the feet: the real flat foot, the pronated foot and the contracted foot—with a not uncommon accompaniment—metatarsalgia or Morton's disease. These disabilities of the feet are commonly associated with pain in the small of the back which shoots down the thighs in some cases. The cause of the pain is the constant attempt at adjustment of the lumbar muscles in an effort to balance and relieve the strain on the feet. The obvious relief of the backache in these cases is the correction of the flat foot, pronated foot, or contracted foot by proper support by means of plates or a high artificial shank.

OBSTETRICS AND GYNECOLOGY.

IN CHARGE OF ADAM H. WRIGHT, K. C. McILWRAITH, FRED. FENTON AND HELEN MacMURCHY.

Puerperal Sepsis.

"Puerperal Sepsis and its Treatment by Iodine" is the subject of a paper worthy of careful study which appeared in *The New York Medical Journal* and *Philadelphia Medical Journal* of January 23rd of this year, from the pen of Dr. William R. Pryor, Professor of Gynecology in the New York Polyclinic Medical School.

The author says that "only about twenty-five per cent. of all cases of puerperal fever are strictly septic," and in view of the high mortality attending the septic form "it is highly important that we determine what cases of puerperal fever are septic and what are not; otherwise rational treatment is impossible." For this purpose "bacteriology is of the utmost importance."

The investigations of Dubendorfer prove that in a very large percentage of pregnant women septic organisms may be found on the *vulva*, especially streptococci and the colon bacillus. "It is evident, therefore, that an examination of the vulvar napkin after delivery is not a safe guide to a determination of the nature of the infection in a particular case." While opinions differ as to the sterility of the vagina, Dr. Pryor states that "the overwhelming burden of evidence is in favor of common presence of streptococci and colon bacilli in the *vaginæ* of pregnant women," and that "we are compelled, then, to base a diagnosis of puerperal sepsis upon an examination of the contents of the *uterine* cavity." Even here he says that "the burden of proof is in favor of the occasional presence of germs which are known to be pathogenic in the uterus of puerperæ who are free from fever," and that "the conclusion is forced upon us that the genital tract of the puerperal woman may

harbor pyogenic cocci and bacilli without detriment to her." In such cases they lie upon the endometrium only, and do not penetrate its substance, in which cases they "produce but litt e clinical disturbance unless drainage is interfered with."

Dr. Pryor collects the lochia in a sterile tube introduced directly into the uterine cavity.

If the bacteriologist reports that he has an "infection by either the streptococcus pyogenes, the staphylococcus, or the colon bacillus, and if the constitutional symptoms are not grave, he washes out the uterus first with Thiersch's solution, then with boric acid, and *packs it full* of ten per cent. or even twenty per cent. iodoform gauze." "If this method of procedure does not suceeed in controlling within six hours a case of streptococcic endometritis, I feel sure, he says, that the germs have penetrated deeply into the mucosa, and that we have to deal with a case of true puerperal sepsis."

The author states that "in no instance in which I have found cocci in the uterus have I failed to find them also in the fluid of the peritoneal cavity," and "from these examinations I am forced to the conclusion that in streptococcus septic puerperal fever, pelvic lymphangitis and phlebitis are early complications." Having satisfied himself that he is dealing with a true puerperal sepsis, the author proceeds at once to operate as follows: "The cervix is thoroughly dilated, and the uterus curetted and then irrigated with saline solution and packed full of ten per cent. iodoform gauze." "By a broad incision the posterior cul-de-sac is opened." "The pelvis is now packed *full* of iodoform gauze of five per cent. strength." The usual treatment of septic cases is of course followed out in all its details.

"In three days the uterine dressing is removed and is not renewed unless the cavum uteri is large." "The cul-de-sac dressing is removed in one week and is renewed."

The results of this heroic method have been most gratifying; out of forty-three cases operated upon there was but one death, a mortality of less than two per cent. This is certainly worthy of the careful consideration of every practitioner, and especially so when one reviews the death rate under other methods of treatment, viz.: curetting alone twenty-two per cent.; anti-streptococcus serum, thirty-three per cent.; hysterectomy, fifty-five per cent., let alone treatment, from seven to twenty-five per cent.

Dr. Pryor concludes his most interesting and instructive paper, of which this is but a superficial review as follows:— "Even though our enthusiasm for this treatment, this isolation of infecting organ and the establishment of local and systemic iodism, be not shared by you, I am not asking too much when I expect you to grant that: (1) In no case has death resulted

directly from the operation; (2) there is no mutilation; (3) the pelvis is rendered free from streptococci; and the results can be accounted for in no other way than as the result of the action of iodine." "My own belief is that the mortality would be much lower if the operation were applied as soon as the cases were shown to be septic." F. F.

Ovariotomy During Pregnancy.

Heil insists that every pregnant woman who complains of abdominal pain referable to the genital region, must be carefully examined. Laparotomy is to be performed in every case in which the diagnosis hinges between extrauterine pregnancy and an ovarian cyst. The tube of the affected side is to be left, if possible, in order to avoid disturbing the uterus. The abdominal route is always to be chosen.—*N. Y. Med. Jour.*

Duhrssen's Incisions.

Hofmeier reports two cases of labor in women upon whom in a previous confinement Dührssen's quadrilateral incisions of the cervix had been made. In the first case there was prolonged labor with death of the fetus and ultimate artificial dilatation of the cervix with bags. In the second case, death of the mother and child took place after a very difficult labor, the former dying of a rupture of the uterus with internal hemorrhage. Hofmeier points out the danger of these incisions, and says that if cervical incisions are necessary, they should be limited to the anterior and posterior walls of the cervix, avoiding the lateral cuts, as thus the vessels, at least, are not likely to be injured. The complications in both the recorded cases were to be traced to the former quadrilateral incisions.—*N. Y. Med. Jour.*

Extrauterine Pregnancy.

Dr. A. H. Cordier, of Kansas City, Mo., discussed the pathology, diagnosis and treatment of this condition. In ten years he had encountered fifty-four cases. Intraperitoneal was to extraperitoneal rupture in the proportion of three to one. The diagnosis of ectopic pregnancy prior to rupture was attended with great difficulty and was rarely made. The question of the treatment of these cases was so thoroughly settled as to admit of very little discussion. The operation of choice was a median suprapubic section, with removal of the misplaced structures.—*Amer. Med.*

Editorials.

MAJOR OBSTETRICAL OPERATIONS.

Our views as to the indications for the various major operations in obstetrics have changed materially during the last few years. Porro's supra vaginal amputation of the cervix after removal of the child was popular for many years after its introduction in 1876. Since, however, Sänger introduced his method of performing Cesarean section in 1882, the Porro operation has rapidly lost ground. One of the supposed advantages of the Porro with the extra peritoneal treatment of the stump was that it could be more easily performed by a general practitioner who was not an expert abdominal surgeon. It was also considered a safer operation when there was infection. The surgeon of to-day, however, does not attach much importance to these considerations, and generally thinks it a very unsatisfactory if not a crude operation.

Symphyseotomy is also fast losing its shortlived popularity. In a late report, Tessier, of Paris, gave notes of the histories of twenty women who had been delivered by symphyseotomy, during the period 1898 to 1903 (February). The patients were operated on at seven different hospitals. Four only out of twenty escaped without some undesirable sequelæ, the remaining sixteen being more or less damaged by the operation. One patient has been a chronic invalid for five years; eight suffered from phlebitis; ten had urinary trouble during months or years, incontinence of urine being the most common affection. A number had difficulty in lifting or going upstairs.

A few years ago an operation was, in a large portion of cases, considered successful when it did not cause the death of the patient. Many of the operators were not frank, or at least prompt in reporting the disastrous results of symphyseotomy, such as those mentioned by Tessier. While it has many disadvantages, it is doubtful if it has one advantage over Cesarean section. From the present trend of obstetrical surgery, it seems not unlikely that Porro's operation and symphyseotomy will be considered obsolete in the near future. It is to be hoped that all forms of

embryotomy of the living child will be placed in the same category. Cesarean section is now becoming very popular in skilled hands; its mortality has been diminished to such an extent that it is now placed at three or four per cent. in cases where women have not been infected before the operation.

We publish in this issue a report of an interesting case in which Dr. Stevenson performed a successful Cesarean section under very adverse circumstances with the worst possible surroundings. It is considered by many that the Cesarean section ought, if possible, to be an operation of election, and not an operation to be performed after failure to deliver by the forceps or other methods. The application of the forceps, however, and traction of the same, are not likely to do harm unless during the procedure the patient becomes infected, and with ordinary precautions there is no reason why such infection should occur. We congratulate Dr. Stevenson on his success, and quite agree with him that, in the interests of both mother and child, the operation of Cesarean section should be more frequently performed.

HOSPITALS IN THE UNITED STATES.

As reported in our last issue, the Johns Hopkins Hospital of Baltimore has suffered severe loss through the recent fire. It is reported that the direct loss in income, for a time at least, will amount to something like $60,000 a year. We are glad to learn, however, that it will not be for long. In fact, it seems not to be the habit of the citizens of the United States to allow worthy charities such as General Hospitals to suffer any length of time from want of money. We are told that Mr. Henry Phipps, the founder of the Phipps Institute of Philadelphia, has presented, through Professor Wm. Osler, $20,000 to the Johns Hopkins Hospital, to be expended in establishing a new out-patients' department for the exclusive treatment of consumptives. It is also reported that Mr. John D. Rockefeller has offered to give $1,500,000 to Johns Hopkins Hospital to cover the University's recent loss.

We learn from the *Buffalo Medical Journal* that the Buffalo

General Hospital has raised by subscription during the last year $185,000 for the purpose of liquidating certain indebtedness which has accumulated during recent years.

The citizens of Toronto are not likely in the near future to do anything so rash for our General Hospital.

Gifts and bequests to all sorts of hospitals in the United States are so princely in character and frequent in number that it is somewhat difficult to appreciate the aggregate sum per year of such gifts. During one week of last month the following sums were given or bequeathed: $48,500 to hospitals in Philadelphia; $42,000 to hospitals in New York; $15,000 to hospitals in Cincinnati and $3,500 to hospitals in Brooklyn.

NATIONAL SANITARIUM ASSOCIATION

A meeting was held at Government House, Toronto, March 14th, to consider plans for the furnishing of the Toronto Free Hospital for Consumptive Poor. The Hospital, which is now nearly completed, is intended for patients in the advanced stages of tuberculosis. Among those present at the meeting were His Honor the Lieutenant-Governor of Ontario, who presided; Mr. W. J. Gage, Chairman of the Executive Committee of the National Sanitarium Association, Dr. J. H. Elliott, Physician-in-Charge of the Muskoka Cottage Sanitarium; Dr. C. D. Parfitt, Physician-in-Charge of the Muskoka Free Hospital for Consumptives; Rev. P. C. Parker, Travelling Secretary of the Association, and many citizens of Toronto, both ladies and gentlemen.

After addresses by Mr. Gage, Dr. Elliott and Rev. Mr. Parker and others, the following resolutions were carried: A resolution moved by Mrs. F. H. Torrington, seconded by Mrs. Jean Blewitt, expressing approval of the establishment of a Free Hospital for Consumptives in the neighborhood of Toronto. A resolution proposed by Mr. J. L. Hughes, and seconded by Mr. H. P. Dwight, expressing approval of the establishment of public entertainments for the purpose of securing funds for the Hospital. An advisory council was appointed to take charge of such entertaiments.

A similar meeting of the National Sanitarium Association was held in Hamilton, March 15th. The principal speakers were Mr. Gage, Dr. Elliott and Rev. P. C. Parker. After reviewing the history of the Association, Mr. Gage suggested that if Hamiltonians wished to do more than they had done for the good cause, they might erect two pavilions one for men and one for women—in connection with the Free Hospital for Consumptives. These would cost $2,000 each to build and furnish, and $3,000 each a year to maintain. Dr. Langrill, Medical Health Officer, of Hamilton, thought it would be better to erect a local sanitarium on the mountain brow. Without acting on either of these suggestions, it was decided to form a local branch of the Association in Hamilton.

TURNING THE ENEMY'S GUNS.

The medical profession as a whole have, since the time that the value of Jenner's discovery became known, been successfully bringing statistics to prove the saving of life by the reduction of deaths by smallpox due to the introduction of vaccination. They have been subjected to the assaults of anti-vaccinationists, who have alleged that vaccination had produced many diseases, and against these assaults we have hitherto stood mainly on the defensive. But for the last few years one of the medical officers of an English municipality has been keeping the statistics of his charge, and the results are as interesting as they are novel and unexpected, and they recoil upon the anti-vaccinationists, whose guns are now turned upon themselves.

The statistics referred to are given with others in the "Transactions of the Eighteenth Annual Meeting of the Association of Executive Health Officers of Ontario," which is just to hand, from which we take the following article:

VACCINATION IN RELATION TO PUBLIC HEALTH.

Epitome of short address on the above subject made by Wm. Oldright, M.A., M.D., Professor of Hygiene, University of Toronto, member of the Provincial Board of Health.

The principal object of the speaker was to bring before the Association a class of statistics that is somewhat new.

Many people held that vaccination was injurious to the young, but from a recent article from J. M. McKenzie, L.R.C.P.E., Medical Health Officer, Kirkby, in Ashfield, which appeared in the *British Medical Journal*, August 15th, 1903, it was shown that in the years 1900, 1901, 1902, 8.49 of the children vaccinated had died, as against 16.01 of those not vaccinated, showing that the death rate was almost double among those not vaccinated.

The death rates in various diseases were discussed, and it was shown that almost invariably the statistics were in favor of vaccination.

From a table given in the article by Dr. McKenzie, the following summary of the three years is taken, showing the causes of death among 706 vaccinated and 281 unvaccinated children:

	Death rate per 1,000.	
	Vaccinated.	Unvaccinated.
Convulsions	2.83	10.67
Pneumonia and bronchitis	36.83	39.57
Marasmus	5.66	39.57
Meningitis	8.50	4.19
Diarrhea	14.16	35.59
Laryngitis	2.83	....
Pertussis	2.83	7.19
Hydrocephalus	1.46	3.59
Dentition	4.25	3.59
Measles	4.25	....
Tabes mesenterica	....	7.19
Congenital heart disease	....	7 19
Erysipelas	1.46	....

In commenting on the unlooked for and startling facts revealed in the above figures, and especially in the total result of 16.01 deaths per 1,000 amongst the unvaccinated, as against 8.49 amongst the vaccinated, Dr. McKenzie thought that amongst the reasons to be advanced for this favorable condition amongst the vaccinated, the chief one is that the products of the vaccine process have a beneficial and modifying influence on most of the other diseases. It is more than likely that the children of extremists and agitators—persons of neurotic tendencies—would be among the unvaccinated, but this would hardly account for the great difference.

In addition to the above class of statistics, an article in the *Medical Annual* was read, which stated that since 1884, 2,198 persons had been employed in the London smallpox hospitals. Of these only seventeen took the disease, of which thirteen had not been revaccinated, and four had never been vaccinated. Not one of the 2,198 who had been properly vaccinated had contracted smallpox.

Reference was made to the overwhelming mass of statistics

as to the saving of life in Allbutt's Practice of Medicine and in other works. The necessity of bringing statistics of this kind before the people was dwelt upon, it being very necessary to educate public opinion on the matter of vaccination, and herein must be exercised tact and firmness.

The method of securing good reliable vaccine, and systematic and efficient vaccination, was discussed at some length.

In regard to injurious effects from vaccination, the speaker had had only one case of vaccination turn out badly, the child being ill for about seven weeks with deep ulcers on the arm, from which he recovered with no ultimate ill results. Other children in the same family vaccinated with the same vaccine had showed no untoward result.

In contrast with this he had seen numbers of cases where vaccination had proved a bar to the loathsome and dangerous disease of smallpox.

The people should be educated to know that it is for their children's benefit to have them vaccinated, instead of having them live under the apprehension that they receive some lurking mischief.

THE DIETETIC VALUE OF PATENTED FOODS.

Dr. W. D. Haliburton, Professor of Physiology, King's College London, in an address delivered before the American Chemical Society at New York, in January last, on the "Dietetic Value of Patented Foods" (*N. Y. Med. Jour.* and *Phil. Med. Jour.*, January 23, 1904), points out the absurdity of the contentions of the manufacturers of many of these "goods." Amongst other things he shows that "nutritive" and "nitrogenous" are not synonymous terms, as is evidenced in the case of such a thing as whole wheat bread, in which the increased nitrogenous material is so "closely invested by indigestible cellulose, as to prevent its being acted upon by the digestive fluids, while the presence of this undigested residue in the intestinal canal excites peristaltic action and causes rapid evacuation, so that the food is retained in the intestine but a short time, and there is, therefore, but a limited opportunity for intestinal digestion and absorption to take place" He submits that "Alas! my poor brother" is a mistake if it is intended to convey the idea that the "brother" is contained within the bottle under contemplation, and points out that it represents little more than the urine of the animal. "Alas! my poor urine," would appear to be nearer the facts of the case than anything yet suggested. The "public" is a most gullible individual, but not much

more so than the "profession" appears to be if the "information" supplied to them gratis by the drummers of manufacturers is to be taken as a criterion. How often one is forced to spend valuable time listening to a discourse on food, or what not, from some boy just out of his teens, who regards you with a look akin to pity when you expose your ignorance by disclaiming any knowledge of his particular "food" or "fad." The estimate of the professional standing in this country must surely be low, when a manufacturer will announce that his "ine" contains "living red blood corpuscles," and points out that for that reason it is of especial use in anemia, and quotes many "well-known" doctors in support of his extravagant statements. If perchance there be any value in the mixture, we submit that the "Bourbon whiskey," "egg albumen," and perhaps the "glycerine" are not being given their due credit.

Professor Haliburton, in speaking of peptonized foods, says: "How often a perfectly reasonable and legitimate idea is reduced to absurdity through ignorance and exaggeration!" "We, for instance, see advertised or hear recommended peptonized beef tea." "The uselessness of such a preparation must be manifest when we bear in mind the constitution of beef tea or meat extract." "As we have already seen, it contains nothing capable of peptonization." It is not necessary to dilate further upon the subject. All our readers can, doubtless, multiply examples for themselves; but is it not time that the profession should bestir itself and shake off these barnacles who feed fat on what is, as often as not, laziness on the part of the medical man, who is prone to order one of these convenient and palatable but useless "foods" rather than prescribe what is not so pleasantly or easily taken, and which requires to have its proper method of manufacture explained or perhaps demonstrated to the patient or friends, but which would contain as much real food capable of assimilation in one drachm as the patented article does in an ounce? F. F.

AMERICAN INTERNATIONAL CONGRESS ON TUBERCULOSIS.

The next American Congress on Tuberculosis will be held during the Universal Exposition at St. Louis, October 3rd, 4th and 5th, 1904. As announced in a previous issue, Dr. E. J. Barrick, of Toronto, is president of the congress. Clark Bell, LL.D., barrister and President of the Medico-Legal Society of New York, is the Chairman of the Committee on Organization. Dr. Clark Bell paid a visit of a few days to Toronto in the

latter part of February, being the guest of Dr. Barrick. We learn from him that this congress is strongly endorsed by the United States Government, which has asked our Dominion Government to send delegates to the next meeting. The Canadian Government has officially accepted the invitation.

Dr. Bell was very much pleased with the work which has been already accomplished in the conflict with the "White Plague" in Canada. He considers that public sentiment in favor of legislation to prevent the tuberculosis is greater here than in any other country.

In addition to Dr. Barrick, president, the following officers and prominent laymen have been appointed as officers of the congress: Honorary Vice-Presidents—Dr. T. G. Roddick, M.P., Montreal, Que.; Sir William Hington, M.D., Montreal, Que.; Hon. Senator George A. Drummond; James Loudon, President of the University of Toronto; Hon. Wm. Mortimer Clark, Lieut.-Governor of Ontario; Hon. J. R. Stratton, Dr. John Ferguson, Prof. Adam H. Wright. Vice-Presidents at large—Dr. W. P. Caven, Toronto, Ont.; Dr. Daniel Clark, Toronto, Ont.; Rev. C. S. Eby, D.D., Bracebridge, Ont.; Dr. R. W. Powell, Ottawa, Ont.; Dr. W. H. Moorehouse, London, Ont. Vice-Presidents of Provinces — Dr. Albert A. Macdonald, Toronto, Ont.; Dr. J. A. Robertson, Stratford, Ont.; Mayor Adam Beck, London, Ont.; ex-Mayor James Cochran, Montreal, Que.: Mayor W. W. White, St. John, N.B.; Charles J. Coster, St. John, N.B.; ex-Mayor John Arbuthnot, Winnipeg, Man.; Dr. J. D. Lafferty, Calgary, N.W.T.; Dr. H. H. Chown, Winnipeg, Man.; J. A. M. Aikins, K. C., Winnipeg, Man.; Dr. G. A. Kennedy, McLeod, N.W.T.; Rev. Dr. J. C. Herdman, Calgary, N.W.T.; Dr. C. J. Fagan, Victoria, B.C.; Rev. Leslie Clay, Victoria, B.C.; Dr. S. T. Tunstall, Vancouver, B.C.

NEW PHYSICAL LABORATORY.

Memorandum from the Board of Trustees of the University of Toronto to the Minister of Education, regarding the erection of a new Physical Laboratory.

The Board of Trustees in submitting herewith the plans for a new Physical Laboratory, beg to direct the attention of the Government to the following statement regarding the present situation, which, in the opinion of the Board, demands immediate action:

The President, in his annual report to the Government, has repeatedly called attention to the necessity for a new building for physics, and in his report for the year ending June 30th, 1902, expresses the opinion that "the erection of a new Physical

Laboratory is the most urgent need of the University at the present time, and cannot be longer delayed without seriously impairing the efficiency of this important department." Since the time referred to the disabilities under which the work of the department has been conducted have so multiplied that action in the matter can no longer be delayed. The Department of Physics provides instruction to students, not only in Arts, but also in Medicine, Engineering, Dentistry and Household Science, the work in the last two subjects named having been added during the present year. For the larger classes the lecture-room accommodation is quite inadequate. There are this year four classes, containing respectively 180 186, 195 and 260 students. The Physics lecture-room is seated for only 135 students, and to show how serious the situation has become since last session (1902-03), it may be stated that, whereas it was necessary last year to divide one class and repeat the lecture, this year the increased numbers render such a division necessary in the case of four classes.

In the practical work the situation is even more serious. The total number of students to be provided for this year in the laboratories is 403, the accommodation for whom was found so inadequate that it has been supplemented by utilizing the space between the cases in the apparatus room, and by resorting to four rooms in the basement. Such temporary makeshifts as these, however, cannot continue to be used in fairness either to instructors or students.

Some idea of the inadequacy of the accommodation may be formed by comparing the total floor space available in Physics with that of the Departments of Biology and Chemistry, the former of which has three times as much space, and the latter about twice as much space as that at present allotted to Physics. In fact, the accommodation is so limited that it is not only insufficient for proper work but it is positively insanitary.

The estimated cost of the erection of the proposed building is $175,000. A further sum of $40,000 will be required for equipment.

With regard to the probability of future expansion in the Department of Physics, it should be added that, in the plans submitted, due allowance therefor has been made in lecture-room accommodation, and that whilst the Laboratory accommodation is planned only for present needs, the building, which is constructed on the unit system, can be readily enlarged for this purpose at any future time by extension of the wings.

Resolution adopted by the Executive Committee of the University of Toronto Alumni Association in regard to the Department of Forestry in the University of Toronto:

Whereas the scientific study of forestry is of the highest

importance to the agricultural, commercial and economic interests of the Province in view of its application to the preservation and improvement of the immense timber resources of the Crown, to the promotion of re-forestry among the farming community and to the establishment and care of parks and pleasure grounds in the various municipalities, as well as in view of its application to the solution of problems affecting the climatic conditions of the Province as a whole;

And whereas the Senate of the Provincial University has by recent statute provided a curriculum of study in forestry and has recommended the establishment of a School of Forestry under the direction of a professor of this subject and in connection with the Provincial University where such a school can be most efficiently and economically organized by the utilization of the teaching facilities already existing;

Resolved, That the Government be respectfully urged to give effect to the statute of the Senate referred to and to make such provision at the earliest possible date as will ensure the appointment of a Professor of Forestry of the highest qualifications and as will adequately provide for all other expenses incidental to the efficient organization and operation of such a school.

The Premier, in reply, said to a deputation, March 23rd, "not now."

NOTES.

Ophthalmological Congress.

The next International Congress of Ophthalmology will be held in Lucerne, Switzerland, September 19th, 20th and 21st, 1904.

Normal Saline Solution.

This term is often incorrectly applied to the ordinary salt solution which is injected subcutaneously or per enema. It should be remembered that the chemists' normal saline solution is nearly ten times as strong as our normal salt solution, which should be designated "physiological salt solution."

Professional Duty.

The *New York Medical Journal* reports another case of martyrdom of professional duty. Dr. Jos. P. Rooney, of New York, died in St. Mary's Hospital, Hoboken, February 4th. On January 18th, five firemen were injured at a fire in Hoboken. Dr. Rooney worked over each, in his shirt sleeves in the bitter cold, and refused to leave until all his patients were safely cared for. As a result his arms were frost bitten, and gangrene set in, which, in spite of all efforts, continued energetic and terminated fatally.

Deafness in New York Schools.

Superintendent Maxwell, it is said, states that over one-eighth of the children attending the public schools are afflicted with some sort of deafness; of these only some three per cent. are aware of their affliction.

Homewood Sanitarium, Guelph, Ont.

We are pleased to state that this worthy institution has had the most successful year in its history. The Superintendent, Dr. A. T. Hobbs, in his annual report for 1903, stated that one hundred and fifty persons were treated during the year, of whom more than one hundred were new patients. The Sanitarium is now being enlarged with a view to making accommodation for at least one hundred patients at a time.

Cancer Laboratory.

The fourth annual report of the work of the cancer laboratory of the New York State Board of Health, conducted at the Gratwick Research Laboratory, University of Buffalo, for a period beginning in 1902 and ending in 1903, was transmitted to the Legislature February 1st, 1903. It was sent out in the month of December in the latter year. It contains the report of the Director, Dr. Roswell Park, and several scientific papers, prepared by Drs. Harvey R. Gaylord, Cary N. Calkins, C. H. A. Clowes, Herman C. Matzinger, Irving Phillips Lyon and Roswell Park. These all pertain to investigations bearing on the question of cancer. Many of the papers are illustrated with microscopic sections. It is the most complete exhibition of research work that has been published in the United States, relating to the origin, causes and nature of cancer.

A Lunacy Certificate.

There was a sensational report in some of the Toronto papers recently to the effect that Lucy J. Stickle, of Spadina Road, Toronto, had issued a writ against Doctors Geo. B. Smith and W. T. Bryans, for the recovery of $10,000 damages. It was also stated that Dr. Clark, the Medical Superintendent of the Toronto Asylum, had decided that the patient was sane and ordered her to be liberated. We understand that up to 17th March, that is, about one week after the appearance of the newspaper item, no such writ had been issued. We understand also that the certificates were given in the regular way after a careful examination, nor was there any difference of opinion between Dr. Clark and the physicians who certified to the lunacy. It is stated, however, that the relatives of Mrs. Stickle are not satisfied with the actions of either the doctors mentioned or the authorities at the Asylum, and that Mrs. Stickle has been removed from the Asylum.

Personals.

Dr. Ingersoll Olmsted leaves for Europe April 7th.

Dr. W. P. Caven, of Toronto, expects to sail for England June 15th.

Dr. J. Milton Cotton returned from Toronto to Nassau, March 15.

Dr. Herbert Bruce, of Toronto, will visit England this summer. Probably in June.

Drs. Hutchison and Armstrong, of Montreal, Que., expect to leave for Italy April 10th.

Dr. Fabian Blanchard (Tor. '93) Lindsay, has been appointed Associate Coroner for Victoria.

Dr. J. T. Duncan, of Toronto, has removed to 165 Bloor Street East (Corner of Huntley).

Dr. Albert Vander Veer, of Albany, had a fall on February 28th, causing a Colles' fracture of the right arm.

Dr. E. D. Carder (Tor. '00) is now in Port Arthur taking charge of the practice of Dr. Beck.

Hon. Dr. Montague, of Hamilton, spent a portion of the month of March at Clifton Springs, N.Y.

Dr. A. T. Stanton (Tor. and Trin. '00), of Pontypool, will shortly go to England for post graduate work.

Prof. J. McGregor Young has been elected President of the Students' Union of the University of Toronto.

Dr. Herbert Benjamin Hutton, of Humberstone, has been appointed Associate Coroner for the County of Welland.

Dr. J. H. Hamilton (Tor. '03) has been appointed to take charge of the Kootenay Lake General Hospital, Nelson, B.C.

Dr. John Henry Wilson, of St. Thomas, has been made a member of the Dominion Senate, in place of Dr. Landerkin, deceased.

Dr. A. H. Richardson, Rainy River, has been appointed Surgeon in the Japanese Army, and left for the far East, Saturday, March 12th.

Dr. R. J. Gibson, of Sault Ste. Marie, has been appointed Surgeon to the Canadian Copper Cliff Company, in the place of Dr. Coleman, resigned.

Dr. Wilson Montgomery (Trin. '91) of South Monaghan, has been appointed Associate Coroner for the united counties of Northumberland and Durham.

Dr. T. A. Bertram, of Dundas, who went south about New Year's, on account of ill health, will probably return to his home as soon as the weather is settled.

Dr. Theodore Coleman has resigned his position as Surgeon to the Canadian Copper Cliff Company, and moved to Hamilton where he has gone into general practice.

Dr. Jos. Graham (Tor. '02), formerly resident *interne* at the Hospital for Sick Children, and now in the Toronto General Hospital, expects to go to England in April for post graduate work.

It is stated that Dr. Nicholas Senn, of Chicago, Ill., will shortly go to Japan to assume charge of the Medical and Surgical Corps of the Japanese army during the war with Russia.

Dr. W. Harle. Smith, of Toronto, has been seriously ill with nephritis. At the time of writing we learn that he is much better, his condition having steadily improved from day to day during the last week.

Dr. Geoffrey S. Beck (Trin. and Tor. '81) of Port Arthur, has been in poor health most of the winter. He has been living in Gravenhurst during the last month, and recent reports indicate that his condition is much improved.

Dr. Gerald O'Riely had an attack of La Grippe in January, followed by bronchitis and general debility. He spent the greater part of February and the first week in March at Preston Springs. He returned to his home March 7th with health restored, and resumed practice.

Dr. Milne, of Victoria, B.C., spent a few days in Toronto early in March. He conferred with various medical physicians respecting the meeting of the Canadian Medical Association to be held in Vancouver, next August. It is hoped that the members of the Association will spend three days in Vancouver, and at least two days in Victoria.

Dr. "Gus" Richardson (Tor. '86), after graduating, practised for a short time in Kamloops, and then acted as Superintendent of the General Hospital in Victoria, British Columbia, for about four years. He went to the Klondike in 1894 and practised in Yukon for about ten years. We regret to say that he is now in very poor health, and is staying with his father, Dr. Jas. H. Richardson, Toronto.

Dr. Jas. F. W. Ross, of Toronto, when last heard of was in Naples, Italy. From there he expected soon to go on to London, and will probably sail from Liverpool for New York April 2nd. He expects to resume practice April 11th.

Dr. Peter H. Bryce, Inspector of Immigration of the Interior, after spending some time in his new offices at Ottawa, visited Quebec, where he arranged for the erection of a detention building for diseased immigrants. He paid a flying visit to Toronto February 27th.

Dr. Geo. McDonagh, of Toronto, had an attack of grippe with slight pneumonia in New York, being confined to bed for about a week. He recovered rapidly after reaching Nassau, returned to Toronto, March 21st, and resumed practice March 23rd.

The graduates of McGill University had subscribed some weeks ago more than a sufficient sum for the portrait of Dr. Osler, of Baltimore, who was for some years Professor of Physiology in McGill before he went to Philadelphia. We are told that two portraits will be painted, one to be hung in the McGill College, and the other to be presented to Mrs. Osler.

Dr. S. H. McCoy, of St. Catharines, after spending about two years in Great Britain, returned to Canada early in January, and was married January 25th to Mrs. S. M. Fraser, of Toronto Junction. Dr. and Mrs. McCoy sailed on January 30th, on the ss. *Cedric* for Liverpool. Dr. McCoy expects to return to Canada in about a year and resume practice in St. Catharines.

Dr. J. C. Mitchell has retired from the staff of the Toronto Asylum for the Insane. An appreciative address was presented to him March 7th. The following week he left for Great Britain, where he will investigate the work done in certain special hospitals. He expects to enter upon his duties as Superintendent of the new Hospital for Epileptics in Woodstock next Fall.

Dr. D. B. St. John Roosa, of New York, was entertained at a dinner at Delmonico's, March 1st, 1904. Dr. William Osler, of Baltimore, acted as chairman. Among those present were: Doctors Bull, Dellafield, Bache Emett, Gibney, Janeway, Polk, A. A. Smith, A. H. Smith and Weir, of New York; VanderVeer, of Albany: Calhoun, of Baltimore; Black and Richardson, of Boston; Keene, Musser and Wilson, of Philadelphia. Special importance was attached to the function because it also commemorated the twenty-one years since the inauguration of post graduate medical instruction in the United States.

A Mrs. McPhail entered action against Dr. Milne Brownlee, of Woodstock, for malpractice, which was tried at the Assize Court before Mr. Justice Ferguson, March 9th. She is suffering from a deformity of the ankle resulting from a fracture, which she says the doctor did not set properly. His Lordship at the close of the evidence withdrew the case from the jury and dismissed the action with costs.

Dr. J. Herbert Austin (Tor. '93) of Kansas City, returned to his home in Canada last September on account of ill-health due to tuberculosis. Early in December he came to Toronto, and since that time has lived in Tent No. 4, Western Hospital. His condition has improved much during the last few weeks, and he is now able and glad to see those friends who desire to visit him.

Dr. Jno. D. Fotheringham, of Toronto, is now recovering from a severe attack of septicemia. A hand was infected Feb. 26th, and the following day pain and tenderness with lymphangitis extended to the axilla. During the following week the local signs spread slightly beyond the axilla, and the constitutional symptoms were for some days serious. On Monday, March 7th, he commenced to improve, and was soon declared by his physicians to be out of danger. At the time of writing, March 18th, he is able to sit up and is gaining rapidly in every respect. March 29th, Dr. Fotheringham is gaining strength and expects to sail for England in a few days.

Obituary.

DR. BATTELL.

Dr. Battell, of East St. Louis, Ill., U.S.A., formerly of Cobourg, Ont., died February 29th, 1904. The remains were brought to Cobourg, and buried March 3rd.

W. S. CHRISTOE, M.D.

Dr. Christoe, of Flesherton, died after a short illness, aged 80. He was graduated from Victoria University in 1866.

WILLIAM J. ANDERSON, M.D.

Dr. Anderson, of Smith's Falls, died Febrbary 19th, aged 65. He was graduated from Queen's University in 1861.

WILLIAM B. BURLAND, M.D.

Dr. W. B. Burland, a prominent physician of Montreal, died of pneumonia, March 21st, aged 60.

JAMES BENJAMIN CARRUTHERS.

Dr. Carruthers, of North Bay, while travelling from a camp at the north end of the Temiskaming Railway to the terminus, was taken suddenly ill, March 12th, and died almost immediately. Heart disease is said to have been the cause of death. He was a graduate of Trinity University of 1886.

WM. RICHARDSON, M.D.

Dr. Richardson, of Burlington, died at his late residence in that town after a long illness, March 14th, aged 61. Dr. Richardson had practised in Burlington over thirty years. He had a large practice, and at the same time took much interest in public affairs. He served a number of terms as Reeve, was Treasurer of the School Board, and for some years President of the Public Library.

MICHAEL KELLY COLLVER, M.D.

Dr. Collver, of Stevensville, died March 11th. He was a graduate of Victoria University in 1882, and a practitioner in Stevensville for twenty-one years.

MR. KNOWSLEY THORNTON.

John Knowsley Thornton, M.B., C.M., Edin., died at his residence, Hildersham Hall, Cambridge, England, January 3rd, 1904, aged 58 years. Mr. Thornton was at one time one of the leading abdominal surgeons in London, and performed distinguished service for several years at the Samaritan Fever Hospital. He began as an assistant to Sir Spencer Wells and finally achieved the highest fame as a bold, conscientious and careful operator.

He fell ill in 1896, suffering repeated attacks of influenza, complicated by gout. In 1898 he retired from practice, and until his death lived at Hildersham Hall, near Cambridge. He sought, through work in his garden and farmyard, to restore his lost vigor, a struggle which vainly continued through much suffering until peripheral neuritis finally exhausted his strength.

R. MILNE MURRAY, M.D., F.R.C.P.

We have to announce with deep regret the death of the brilliant obstetrician and gynecologist of Edinburgh, Dr. Robert Milne Murray, aged 49. About fifteen months ago, while on a professional trip to the country, he contracted a chill which led to serious lung mischief. Possessed of an excellent constitution, he made good resistance and some progress towards recovery. In the hope of complete restoration, he passed the greater part of last year in North Italy and Switzerland. Unfortunately the disease reasserted itself during the winter, and he died February 15th.

Dr. Murray was a large-hearted and many-sided man. In addition to his scientific gifts he had a fine artistic perception, he was an excellent draughtsman and a good musician. In sport he was a keen golfer and fisher, and during recent years travelled much. A man of delicate perceptions, always pleasing and genial, he possessed that sunny aspect which wins the heart. For much information concerning his life and death we are indebted to Dr Stenhouse, of Toronto. Dr. Murray was the Stenhouse family physician in Edinburgh before he specialized.