

deeply, was freed from attachments and removed. During removal it was found to be very adherent to the dura mater, and particularly to the dura mater of the longitudinal sinus, its detachment from this portion requiring the exercise of much care and patience. This second mass was ovoid in shape and measured about one and a half inches by one inch. Both masses were firm and avascular, with here and there soft areas. They were of a yellow colour. The whole tumour weighed almost five drachms. Subsequent microscopical examination showed both masses to be granulomata, probably syphilitic.

A careful examination of the surrounding parts by palpation failed to reveal any further tumour mass, and as there was practically no bleeding from the brain substance the dural incision was carefully stitched, after which the osteoplastic flap was replaced and the skin was also stitched. An aseptic absorbent dressing was then applied externally and the patient was returned to bed. After the operation he looked very pale; the pulse was fast and weak and the breathing was regular. A few hours later the bowels moved repeatedly and about the same time it was noticed that the pupils had become equal and were also responsive to light. On the same evening he began to give signs of returning sensibility, being able to answer "Yes" and "No," and that more sharply than he had done before the operation. He could also swallow with ease, could move the right leg, and, for the first time, made some attempts to move the right arm.

During the two days following the operation the patient's temperature ranged between 99° and 100°, while his pulse-rate was between 88 and 104, and the respirations numbered from 18 to 20 per minute. He now gave distinct evidence of spontaneous and even purposive movements of the right leg and, occasionally, of the right arm. While, however, he could flex the right arm he could not extend it. Slight right facial paresis still persisted and he was unable to protrude the tongue. The optic neuritis was still as intense as formerly. On July 8th (three days after the operation) it was observed that he now gave signs of attending to his comfort. He frequently arranged the blankets with his left arm and lay on his left side instead of, as formerly, on his back. He was still unable to protrude the tongue. The pulse quality had markedly improved and the bowels moved regularly. During the period from July 9th to 12th he called "Nurse" when he wished anything, as he had been told to do. He also called "Food" when he felt hungry. On the other hand, he very often misnamed articles presented to him and could not remember the names of many others, although he clearly recognised them. When, for example, he was shown a clock he said it was "six" but could not remember the word clock. When asked if it was a watch he said "No," and smiled and said "Yes, clock," when the correct word was mentioned. When asked a couple of questions in succession he frequently gave an answer to the first when he was asked the second, and sometimes he gave wrong answers to questions and wrong names to articles presented to him. He, however, looked disgusted when he gave such answers and sometimes said "No, I don't mean that." He could give his name, age, &c., correctly, if not previously plied with questions.

A note made on July 16th (11 days after the operation) stated that a marked change in the condition of the patient's intellect was now observed. He could speak sensibly and his memory had markedly improved. He remembered his time of service in South Africa, the name of his regiment, &c., and other events up to the time of his coming into the infirmary. This incident, however, and all succeeding ones he appeared to have forgotten. Being anxious for solid food, and having been told that he must get the "Chief's" permission first, he made a vigorous effort to make his wishes understood at the morning visit. He, however, objected to be questioned, telling the nurses that he knew quite well what he wanted but that he was unable to get the proper words for the answer. He asked for a book to read and was able to recognise some words after spelling them slowly over but was unable to understand the context. On the 18th he was still unable to protrude the tongue when asked to do so, although he believed that he did protrude it. He was therefore asked to put his hand up and feel whether the tongue was out or not. Having satisfied himself that the tongue was not out he immediately protruded it properly and has been able to do so since. He was now found to be able to extend the right arm as well as to flex it. When asked to whistle, he whistled a bugle call, and he recognised a

flower when shown one. From this date improvement was steady. He became gradually brighter, answered questions at once, and asked others. He frequently volunteered information regarding his condition. His chief difficulty seemed to be in giving the name of some person or thing when asked for it. The wound was dressed for the first time 24 days after the operation and was found to be perfectly healed.

The patient was allowed to get up some seven weeks after the operation. He was now very well and bright and intelligent, although he sometimes found difficulty in expressing himself, particularly when excited. The right arm and leg being still deficient in power, as was to be expected, a course of massage was ordered. He had no fits after the operation.

Glasgow.

## THE PREVENTION OF CANCER REGARDED AS A PRACTICAL QUESTION RIPE FOR SOLUTION.

By C. B. KEETLEY, F.R.C.S. ENG.,  
SENIOR SURGEON TO THE WEST LONDON HOSPITAL.

IN THE LANCET of August 18th, p. 419, Professor A. W. Mayo Robson justly calls attention to the desirability of the early recognition of what might be termed suspicious appearances suggestive of cancer of the stomach in order that an exploratory operation, and possibly a radical cure, may be made in good time. Incidentally he quotes Professor William Osler's opinion that 10 per cent. of gastric cancer cases are fatal within three months and the observations of many authorities on the frequent "grafting of cancer upon long-standing ulcer" of the stomach. I think we must all agree with Professor Robson, but I would invite your readers to go a little further. Is there much hope of the rapid cases which kill in three months being often diagnosed in time to be saved by surgery? Is there no prophylaxis of both gastric ulcer and gastric carcinoma? You allowed me to argue this question at some length in THE LANCET of August 31st, 1901, p. 584, and I dealt further with it in the *Medical Press and Circular* for 1905, vol. ii., p. 1. I would also refer to the article in which Sir James Paget advanced strong reasons for the view that cancer is a parasitic disease, pointing out some of its many important resemblances to syphilis and tubercle.<sup>1</sup> Professor Metchnikoff, in the Harben lecture for 1906, referred to somewhat similar views to mine, saying they are held by Czerny and not denying that they may be right. I hold that the time is now as ripe and as promising for the organisation of a system for the prevention of cancer as in 1870 it was ripe for the introduction by Lister of a system for the prevention of the deadly complications of wounds. The micro-organisms which cause wound infections were not demonstrated until after the introduction of Listerism. What might be termed the bacteriological basis of that system was the knowledge then possessed of putrefaction; and the most deadly complications of wounds which antiseptic treatment has banished from them—e.g., tetanus and some of the worst forms of peritonitis and meningitis—are not caused by putrefaction. All depends on whether or not the *materies morbi* of cancer is or is not some living principle introduced into the stricken animal from without. If bacteriology has proved anything it has demonstrated that such principles or causes of disease cannot live long in the presence of degrees of heat which are lower fortunately than temperatures which render foods worthless.

I think the grounds for attributing cancer to some living organism to be exceedingly strong. I will not trespass on your space to repeat arguments already set forth in articles to which the references have just been given. I cannot see that histologists have effectively controverted the hypothesis of a causative micro-organism in cancer by advancing theories of the mode of multiplication of cancer cells, whether their observations and hypotheses be right or wrong. They differ so much among themselves that they cannot be entirely right. Nor does the fact that cancerous

<sup>1</sup> THE LANCET, Nov. 19th, 1887, p. 999.

mice fail to infect healthy mice who are merely kept with them prove anything except a failure to appraise clinical observations at their true value, in those who lay stress on it. In the case of those tumour-producing diseases with which cancer has clinically the nearest relations—e.g., syphilis, tubercle, and leprosy—it is striking what long periods of intimate cohabitation can pass without causing infection. Reflect on the following case. A woman, aged 27 years, was for 21 years a sufferer from lupus of one leg so severe that she came under me for amputation (from my colleague, Dr. P. S. Abraham). The other leg was quite healthy. Now those two legs had been bed-fellows and had otherwise lived together more intimately than any pair of mice and men all the time and presumably the “constitution” of the two legs was at least as identical as that of two mice. Negative observations in this connexion have small value but the positive observations which the clinician makes from time to time, even if rarely, are of great significance. For instance, I saw a small epithelioma of the tongue develop opposite a larger and older one of the lower jaw. And epitheliomata of the leg form nowhere except on the site of some long-standing, neglected ulcer ripe, as it were, for infection from without.

Nor can I admit for a moment that the Cancer Commission has disposed of the question by saying *ex cathedra* that differences of food have nothing to do with the cause of cancer. This protests too much. Has food nothing to do with the causation of chronic gastritis or with dilated stomach? What about alcohol? What about excessive beer-drinking? Does not chronic gastritis predispose to cancer and who are the classes and nationalities of people who suffer most from cancer of the stomach? Do old gastric ulcers and cicatrices not predispose to that malady? These questions are not to be disposed of by statements that teetotal Hindoos as well as lager-beer-drinking Germans are liable to gastric carcinoma, statements made without regard to comparative liability. I have only touched on arguments and contentions which have appeared recently. As I promised, I will not here go at length into the question, but will straightway lay down the following rules for the prevention of cancer. These rules would tend to protect from other diseases and so much the better. Listerism, which was meant to protect wounds from putrefaction and suppuration, incidentally proved effective against tetanus and various grave specific infections; also, so much the better.

1. Sterilise the food. The majority of cancers attack the alimentary canal and especially the parts where food and faeces tarry—e.g., the lips, the margins and under surface of the tongue, the tonsils, the gullet behind the larynx, and again where it is crossed by a bronchus, the lesser curvature of the stomach near to the pylorus, the pylorus itself, the ileo-cæcal region, the sigmoid flexure, the rectum, any part of the alimentary canal which has been the seat of chronic ulceration or of cicatricial contraction, and the lower portion of the large bowel in those curious cases of multiple polypi which tend to delay the passage of solid faeces, just as hillocks and trees check the downward course of snow on a hill side. Cancers of the biliary and pancreatic passages as well as those of the uterus are explicable through the observations of Bond of Leicester on ascending currents. Besides, the hypothesis of direct infection does not negative the possibility of infection from the blood.

2. The sufficient and regular toilet and protection of the nipples and of the genitalia. It is significant that these organs, each the outwork of a region frequently attacked by cancer, are specially often polluted by stale secretions and discharges and are more frequently handled by their owners than any other part of the person usually covered by clothing. They should be washed regularly and well, thoroughly dried and clothed with soft, unirritating material which should itself be clean. During lactation especial attention should be given to cleanliness and dryness of the nipple and to cleanliness of the infant's mouth.

3. Due care of the mouth and teeth.

4. The dressings of discharging malignant ulcerations should be destroyed carefully and not allowed to pollute either the fingers or the underlinen. The carelessness, not only of the sufferers but also of many medical men and nurses about this point is amazing.

5. Non-malignant sores and tumours should be cured and especially not allowed to drift on if chronic. Instances in which old scars and chronic ulcers have become the seat of cancer are well known to be innumerable.

6. As a matter of course, cancerous and doubtful tumours and ulcers should be excised promptly. Early removal of a cancer performed in a correct and thorough manner not only gives the patient an excellent prospect of complete cure but also removes a possible focus from which other people may acquire cancer.

7. Abstinence should be practised from alcohol, tobacco, and from foods which leave waste products, of which the kidneys, the bowels, and the skin cannot easily and thoroughly get rid and which thereby provoke and sustain the chronic inflammations and ulcers which so often pave the way for cancer. This rule forbids, among many other dietary abuses, that excess of meat eating to which the late Sir Mitchell Banks gave a place in the etiology of cancer. Its observance would also have protected many alcoholics and smokers from cancer of the tongue, throat, and stomach.

8. Physical familiarity should be avoided, except with those who are nearest and dearest to us. We get the majority of our diseases either directly or indirectly from one another and the more exclusive our intercourse, whether innocent or otherwise, the safer we are. Even those who will deny that this is true of cancer may acknowledge that it applies to some of those chronic diseases which prepare the ground for cancer. I believe that most rules for the preservation of health tend to the promotion of morality, but this rule has that tendency in a special manner.

9. Much thought should be given, especially by mistresses and housekeepers, to the *service* as well as to the cooking of food, with a view to disease prevention. The way to teach cooks and kitchenmaids with this object is not so much by talking to them as by (1) seeing that they are provided with all reasonable facilities for keeping their persons clean and their utensils aseptic, and (2) regularly observing them at their work in order to see whether they have contracted aseptic habits. Any intelligent servant can be made to understand that her own well-being, and even her own good looks, often the more important consideration to her, depend upon her attention to the hygiene of the kitchen and scullery. A copious and properly placed supply of hot water is the first essential. Next come sufficient clean cloths, towels, table-room, soap, soda, and a good light. Uncooked food, such as salads, if eaten at all should be carefully inspected by the mistress and the detection of dirt on them regarded as the proof of negligence almost criminal. Bread loaves from the baker's should be sterilised in the oven. Bakers' boys are not exempt from syphilis and other affections which may pave the way for cancer and sometimes the loaves are upset in the street. When a servant is herself ill the cause should be ascertained with the help of a careful medical man. It is worth a mistress's while, in her own interests, to take some pains to keep her servants well and to have them quickly cured of their illnesses. It is a not uncommon thing to meet with cooks suffering from cancer itself and even from ulcerating and discharging cancer. Tubercle is, of course, quite common in every class of domestic servant. When the service of the house has been at last put into due order it should be the rule as much as possible to take the meals there and not to go needlessly to clubs and public buildings to eat, still less to drink. The rolling stone gathers no moss. What it would gather, if it were a vital organism, would be disease.

Some of the above recommendations may be regarded as counsels of perfection. They none the less constitute a good standard at which to aim. Whenever a medical man gives advice involving a little trouble to persons whose habits run counter to it, some who need the advice most show their gratitude by deriding it. One can imagine the hog saying to the lion: “My good friend, why do you spend so much time cleaning your fur and actually sit up half the night to get fresh meat for supper? What! ‘*Trichina spiralis*’! Pooh! I don't believe there is such a thing. It was invented by one of the gentlemen who write leaderettes for the medical journals.”

Is there any article of food which is particularly open to suspicion? Let us bear in mind that nearly all primary carcinomata attack either the alimentary canal or the skin or passages which open into the skin or the alimentary canal. Now, is there any article of food which comes much into contact with the skin? Milk is analogous in origin to the secretions of skin glands, to sweat and to sebaceous material. The breasts are skin glands. The skin therefore comes into intimate relationship with substances similar in nature to milk and the breast comes into contact with milk

itself. Now the breast is that part of the outside of the body which is most prone to carcinoma. Further, other external parts which suffer from a well-marked liability to carcinoma—viz., the vulvæ, the penis, and the nose—are remarkable for their copious supply of cutaneous glandular secretion. From these considerations I think special attention should be paid to the sterilisation of milk and its products, cheese and butter. Incidentally, this would assist in the prophylaxis of tuberculosis. And further, the vulvæ and the glans penis, as well as the prepuce, should be kept scrupulously clean and free from eczema, herpes, and ulcerations of every kind.

Grosvenor-street, W.

## A Mirror

OF

## HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

### WESTMINSTER HOSPITAL.

A CASE OF ACUTE YELLOW ATROPHY OF THE LIVER.

(Under the care of Dr. DE HAVILLAND HALL.)

FOR the notes of this case we are indebted to Dr. Cavendish Fletcher, house physician.

The patient, who was a man, aged 21 years, was admitted to the Westminster Hospital on August 31st last. The history which he gave was to the effect that his illness commenced on August 18th, when he vomited two hours after breakfast and all that day he felt "bilious." Three days later he noticed that his skin had become yellow and this colour gradually deepened up to the time of his admission to the hospital. He continued to vomit two or three times a day after food and he said that he felt increasingly weak and lethargic. His bowels were regular daily. He stated that six months previously he had contracted syphilis, for which he had been treated by a medical practitioner up to the time of his admission to hospital. He had had no other previous serious illness.

On admission he was found to be a well-nourished young man of a somewhat lethargic temperament. The skin, conjunctivæ, and mucous membrane of the mouth were deeply jaundiced, the colour being a bright yellow. His mouth was very foul, there were two carious teeth, and the tongue was coated with a thick white fur. On the lower abdomen and inner side of the thighs was a rash consisting of round patches of a coppery-coloured stain, not raised and not fading on pressure. These were considered to be the remains of his syphilitic rash but there was no definite scar on the penis. The abdomen was full, rounded, and quite soft and there was no tenderness anywhere. The liver dulness was normal. The heart and lungs showed no abnormal physical signs. The patient complained of no pain. The temperature was normal; the pulse was 56 per minute, full in volume, but low in tension. The urine was dark greenish-brown in colour and had a specific gravity of 1012; it was acid and contained no albumin or sugar but bile reactions were well marked.

The case was considered to be one of catarrhal jaundice and the patient was put on a liquid diet and given five grains of calomel followed by a saline purge on the following morning. His bowels acted next day and the motions were watery and of a light clay colour. On Sept. 1st, 2nd, and 3rd he remained in the same condition and vomited two or three times a day after food. On the 4th a marked change came over the patient. He became very drowsy but could be roused to take food. The vomiting became more frequent but consisted only of curdled milk and a frothy watery material. The temperature fell to 96° F. in the early morning and remained at that level. The pulse was still very infrequent and the liver dulness was still normal. As his bowels were confined he was given three grains of calomel and a saline aperient three times a day. On the next day the patient was in the same torpid condition, his temperature was still subnormal, and the pulse was

slow. The purgatives had no effect in opening the bowels. On the 6th his condition became very much worse. His colour deepened to a dark bronze, he lay semi-comatose, and vomited almost incessantly. The vomit now contained blood, at first red but later of a dark coffee colour. The liver dulness was now definitely diminished, the comparative dulness starting at the sixth rib and the absolute dulness at the seventh rib in the mid-clavicular line and extending down only to the lower border of the eighth rib in that line. The urine was examined for leucin and tyrosin. Leucin was found in quantity but no definite tyrosin crystals could be demonstrated, although there were some small clusters of very tiny, needle-shaped crystals resembling tyrosin except in size. There were numerous hyaline and granular casts and some Charcot-Leyden crystals. The urea excretion was apparently not diminished. A blood count showed nothing abnormal. Later in the day the patient became delirious. He understood nothing that was said to him, moved his limbs about in an aimless fashion, and made frequent attempts to get out of bed. His temperature remained persistently subnormal but the pulse gradually rose in frequency from 56 to 116 per minute and declined in volume. The bowels were obstinately confined, a simple enema and a turpentine enema being returned without result. The diagnosis of acute yellow atrophy of the liver was now considered to be established. On Sept. 7th the liver dulness was still further diminished and was now represented merely by a narrow band about an inch in width between the seventh and eighth ribs. There was no ascites. On this day a few scattered hæmorrhagic spots appeared on the chest. The delirium passed off and the patient lay almost comatose. The bowels remained unopened in spite of an enema containing two ounces of castor oil administered about 18 inches up the bowel and two minims of croton oil given by the mouth. The pulse rose in frequency steadily to 130. His temperature now began to rise rapidly and from being 96° in the morning it reached 103·4° at midnight. The patient's condition passed into deep coma with stertorous breathing and finally Cheyne-Stokes respiration, and he died at 2.10 A.M. on Sept. 8th.

*Necropsy.*—A post-mortem examination was made under the direction of Dr. R. G. Hebb ten hours after the patient's death. All the tissues were deeply jaundiced, with the exception of the brain which was normal in colour. There were numerous hæmorrhagic extravasations in all the organs, most noticeably under the endocardium and pericardium and in the lungs and peritoneum. The colon was loaded with scybala. The liver was small, weighing only 31 ounces and measuring seven inches from side to side across the upper surface. The capsule was wrinkled in places. The left lobe and adjacent part of the right lobe were dark red, firm, and fleshy. The greater part of the right lobe was bright yellow in colour with irregular areas of a dark red colour scattered through it; it was much less firm in consistence than the left lobe. The gall-bladder was empty; the bile and pancreatic ducts were quite pervious. The microscopic appearances of the two lobes differed. The sections of the yellow portion of the right lobe showed all stages of degeneration; in them there could be distinguished apparently normal liver cells with nuclei, cells which had lost their nuclei and were undergoing granular and fatty degeneration, and finally parts where the cells had become completely disintegrated and broken up into granular and fatty débris. The sections of the red left lobe, however, showed no trace of normal liver tissue save the fibrous framework which stood out prominently owing to the disappearance of the cells. The shrunken lobular structure could be seen in this connective-tissue framework but the interstices were everywhere filled, not with cells, but with a granular-looking degenerated material which took the stain very badly. It appeared obvious from the sections that the yellow right lobe represented the earlier stage of the destructive process, whilst the left lobe, though looking much more normal to the naked eye, really represented the final stage of the disease.

*Remarks by Dr. FLETCHER.*—This case, in which the clinical diagnosis was confirmed by a necropsy, differed only very slightly from the "presumed case of acute yellow atrophy of the liver" published in THE LANCET of Sept. 8th, p. 651. The main points of difference were the obstinate constipation, the intractable vomiting, and the subnormal temperature which were present in the case now described. The connexion with syphilis is interesting, although the paucity of data, of course, makes it impossible