improved, and are nearly free from moist *râles*. On the 9th of May, we sent him to the Convalescent Hospital at Southport.

In speaking of this man's case when it occurred, I said that, although I believed it to be one of gangrene of the lung, connected with a low form of pneumonia, yet the symptoms might possibly be connected with tubercular deposit. As you will now learn, we subsequently had an opportunity of seeing the condition of the lung.

The man was readmitted into the hospital on the 2nd January, 1868. He told us that, after his discharge in May, 1867, he remained tolerably well, and *quite free from fetid expectoration* for about four months, when the fetor returned, and continued, more or less, up to his readmission. We found dulness over the right lung, with coarse *râles*, and gurgling at the apex. There were, also, coarse *râles* and bronchial breathing at the back. The expectoration was copious and very fetid, and the breath was fetid. He was ordered carbonate of ammonia and bark, a chlorine gargle, and eight ounces of brandy daily, with beef-tea and milk.

He did not improve under the treatment. His pulse was quick, 120 to 130; he had profuse perspirations; he slept badly; but the fetor became somewhat less, although it did not disappear. The ammonia was continued till the 10th, when quinine was ordered, but, on the 13th, the ammonia was resumed. The brandy was continued, and opium was given at bedtime, almost every night. He died on the 14th, and the body was examined on the following day. The left lung was emphysematous throughout. The right lung had a large gangrenous cavity at the upper part, the walls of which were soft and easily broke down. A small part of the anterior edge of the lung was emphysematous. The remainder of the lung was the seat of chronic grey hepatisation, and, on section, there was a copious flow of purulent matter. The areolar tissue between the lobules was much thickened. There were no tubercles.

These cases will tend to shew you the kind of pneumonia with which gangrene is usually associated. It is a very unfrequent sequence of the acute form, and it probably rarely occurs except in connection with some cachectic state of the system.

The diagnosis of gangrene of the lung turns on the peculiar fetor of the breath and expectoration. Neither the general symptoms nor the physical signs present any pathognomonic features. The prostration is usually very great, and quite out of proportion to the physical signs. The pulse generally becomes very rapid and feeble, the face sunken, and the aspect anxious.

In the treatment of the disease, you must be guided by the general condition of your patient, and you must give stimulants, tonics, and nourishment in proportion to the depression which exists. The medicines to be most relied on are carbonate of ammonia, quinine, chlorate of potash, and the mineral acids. In the cases I have referred to, especially in those of R. and F., I gave a considerable quantity of brandy; and from the success of the treatment in R.'s attack, and the first attack of F., you may be encouraged to hope for a favourable issue even in the most unfavourable-looking cases.

Chlorine has been recommended in the disease, but I have no experience of it except when used as a gargle, and it has not seemed to me to have much influence in removing the fetor of the breath and expectoration. I see no objection to its use internally, provided that, at the same time, you give stimulants and tonics; but if it interfere, in anywise, with the functions of the stomach, you must not persevere with it. It is of the first importance to get your patients to take plenty of nourishment, and you must, therefore, try to keep the digestive organs in good condition.

The inhalation of the vapour of creasote is, I think, very useful, and should always be tried.

FARADAY ON TITLES GIVEN TO MEN OF SCIENCE.—I cannot say that I have not valued such distinctions; on the contrary, I esteem them very highly, but I do not think I have ever worked for or sought them. Even were such to be now created here, the time is passed when these would possess any attraction for me, and you will see, therefore, how unfit I am, upon the strength of any personal motive or feeling, to judge of what might be influential upon the minds of others. Nevertheless, I will make one or two remarks which have often occurred to my mind. . . . A Government should, *for its own sake*, honour the men who do honour and service to the country. The aristocracy of the class should have distinctions which should be unattainable except to that of science. . . . But, besides, the Government should, in the very many cases which come before it having a relation to scientific knowledge, employ men who pursue science, provided they are also men of business. This is, perhaps, now done to some extent, but to nothing like the degree which is practicable with advantage to all parties. The right means cannot have occurred to a Government which has not yet learned to approach and distinguish the class as a whole.

ON CERTAIN CAUSES OF MAMMARY CANCER.*

By CHARLES H. MOORE, F.R.C.S.,

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IN a paper formerly read to the Association at Leamington, I endeavoured to distinguish the antecedents of cancer, according as they might reside in a general cause, or in one belonging to the site of the primary tumour. There appeared to me reason to give greater prominence to those causes which act upon or within the misgrowing part itself, than to those which might belong to the whole body in common. The search for the causes of cancer became, therefore, more likely to be successful if prosecuted in the organ first diseased, than in peculiarities which, being indefinable, are designated constitutional. Causes, indeed, are peculiarly difficult to demonstrate in respect to any new growth. Their obscurity arises mainly from the fact, that they influence the faulty textures gradually and imperceptibly. Like the forces evoking the development of organs, they are seen in their results, but they act, however energetically, without themselves attracting observation. Moreover, there is no one cause for all new growths. On the contrary, similar tumours appear to me to proceed from different causes, while the same cause, operating at one time, may issue in an innocent growth, at another, in a growth which is malignant.

In the instance of the female breast, which is, on various accounts, the organ most convenient for the study of tumours, there appear to be liabilities to new growths of all kinds from causes which cannot be included amongst those hitherto in question, whether they be local causes or causes innate. There is apparently a third source by which tumours arise out of a relationship of even distant organs to one another—a relationship which, as it normally associates the functions of those organs, is capable, also, of perverting them.

It is to illustrate this subject, that the following brief paper is designed; and, especially, not so much to call attention to the frequency with which uterine or ovarian ailment precedes the development of mammary disease, a fact already familiar, as to suggest that some, even of the cancers of the breast, may be induced by such previous distal irritation.

Practitioners who have to observe the great prevalence of uterine diseases, may possibly not deem it reasonable to attribute any of the tumours occurring in the breast to an irritation reflected from the generative organs in the pelvis, since the large majority of the cases which pass under their notice, make complaint only of the uterus, and are not attentive to the less irksome ailment, when there is any, in the breast. Yet, as a matter of fact, mammary disease does so often arise with a relation to previous disturbance of the womb or ovary, as to impress a surgeon with the conviction that they are connected. The very track by which the mischief passes may even be indicated by an observation in Mr. Birkett's Treatise on the Breast, which shows that, in a patient having uterine disturbance, pressure on the nerves issuing from intercostal spaces on their way to a spot of chronic induration of the breast, is sometimes as painful as the swollen spot itself.

It is by no means uncommon to find dysmenorrhœa and leucorrhœa attended by tumefaction of the breasts. In young women having difficult menstruation, the induced disease may be a chronic mammary glandular tumour; at a later age, many of the acini of the gland may enlarge and become dense from the same cause, the breasts feeling beset, more or less generally throughout, with grains or nodules, some of which are as large as cherry-stones. When uterine symptoms are much protracted, irregular indurations of larger size appear, which are not confined to the acini, are unevenly dispersed in one or both breasts, and, if more prone to occur in one part than another, are rather frequent in the depth of the organ beneath the areola. Even these masses may subside upon the removal of the uterine ailment; but it may also happen (and this is the chief point to which I invite attention) that, though most of such apparently similar tumours disappear, yet one of them eventually becomes hard, enlarges, infects the axillary glands, gives rise to the growth of similar tumours outside the mamma itself, and, in fact, runs the course of unmistakable cancer.

Besides these, there are other cases of prolonged uterine or ovarian disease, during which there arises, unobserved, in one of the breasts, a tumour, which is cancerous from the first. Without disregard to other causes of the same disease, this sequence is yet traceable often and markedly enough to suggest a connection between the genital and the mammary disease—a connection of cause and effect which, if recognised in the instance of chronic induration of the breast, may be allowed, also, in that of cancer. It is true that, on account of the

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opinion usually entertained respecting the nature of these two diseases, we hesitate to refer them to a common origin, the chronic induration being limited, transient, and rather inflammatory, the cancer being permanent and aggressive. Yet, as the study of new growths advances, even such differences more and more lose importance, not, indeed, as to the probable issue of the dissimilar diseases, but certainly, as it seems to me, in respect to their cause.

I proceed to give brief and selected evidence of the opinions thus advanced.

Several years ago, my attention was first attracted to the subject by observing the large proportion of cases of mammary cancer in which fibrous tumours existed in the uterus; especially tumours small, pendulous, lying at the fundus, and liable to constant movement amongst the coils of the intestines. Further observations amongst the living have supplied such evidence as the following of the origin of mammary disease in uterine irritation.

Disordered Menstruation, Glandular Tumour, and Chronic Induration of the Mammae.—Dr. Peregrine did me the favour to send to me an unmarried lady on account of the state of her breasts. She began to menstruate at twelve years of age, and the discharge, which continued on every occasion for twelve days at a time, recurred regularly every three weeks. During her early womanhood, she was greatly exhausted by this sometimes copious depletion; but after some years, she recovered strength, and became ordinarily stout. The catamenial discharge, however, continuing in excess, she had, at twenty-nine years of age, three tumours in the right breast; one of these was a soft moveable glandular tumour, and superficial; the other two were deeply seated, indistinct, not hard, and as large as half walnuts. They appeared to be inflammatory indurations of the breast tissue. In the left breast, many of the lobules were enlarged into dense, small, nodular swellings. Obviously, the whole disease was innocent, and, though taking three forms, was dependent on the state of the pelvic generative organs.

Enlargement and Induration of Lobules of the Left Mamma disappearing on the relief of Uterine Disease.—A lady of about forty, but apparently younger, was sent to me by Mr. Whipple, of Plymouth. She had several dense nodular swellings of the acini in the left mamma, and one, firm, smooth, quoit-shaped, and mixed with the breast tissues behind the areola. In the axilla, on the same side, were four separate, firm, enlarged glands. The combination of axillary with the mammary tumours appeared to indicate that both were cancerous; but the history was very distinct, that those in the breast were recent, while the axillary glands had been enlarged for seven years. There was considerable uterine discomfort and painful menstruation.

In the course of three months, during which a lotion of lead was worn on the breast, and the uterine symptoms were much relieved under the treatment of Dr. Barnes, the mammary swellings, and even the firm broad tumour behind the areola, disappeared. The axillary glands, however, enlarged a little in size and increased in number.

Large Uterine and Mammary Tumours; the former preceding.—An unmarried lady, aged thirty-four, consulted me for a very large fibroplastic tumour in the left breast, there being, also, uterine tumours of much longer date than it, and so large as to deform the abdomen.

Obscure Ovarian Irritation: Chronic Induration and doubtful Cancer of Mamma; the former subsiding. Removal of one Breast.—Dr. Rowe, of Margate, sent a lady, aged forty-six, to me in November, 1867. She had tumours in the substance of both breasts—firm, flattened, moveable only with the breast tissue. Two of them were symmetrical, being behind the areola, but the nipples were not drawn in. There was no axillary disease on either side. The catamenia, usually moderate and punctual, were three weeks overdue; and, during this time, there had been a feeling of heat about the breasts, and uneasiness extending down the body to the region (which she pretty accurately described) of both ovaries. Though the tumours appeared to be cancerous, there was an evident connection between them and some reflected ovarian irritation.

Under treatment, all these swellings diminished, but, at the same time, the axillary glands on both sides became a little swelled. In June, 1869, Dr. Rowe found the left breast and both axillæ healthy; but, there being still a hard tumour on the right side, as a matter of precaution, he removed that breast. The tumour proved to be a dense, not scirrhus, mass of mixed fibrous tissue, with nuclei.

I have since seen this lady, and satisfied myself that the entire disease in the remaining breast has disappeared.

Uterine Ailment, with Chronic Induration and Cancer in the Left Mamma.—Mr. Swindell, of Whetstone, brought to me an unmarried lady, aged thirty-four, having some moderately firm and apparently inflammatory indurations of parts of the right breast, with cedema. She had leucorrhœa, and scanty and painful menstruation, and she was highly hysterical and over sensitive. The engorgement of the breasts appeared to be

due to the state of the pelvic organs, and it lessened under treatment. Fifteen months afterwards, though the hysterical and the uterine symptoms were relieved, and the general health had improved, one of the swellings became larger and hard, and the lymphatics were swollen. The breast being removed by my advice, but by another surgeon in one of the hospitals, the disease constituting the principal tumour proved to be scirrhus; and, at the present time, two and a half years later, there are cancerous nodules near the scar.

Cancer of the Breast, following long and severe Uterine Disease.—A middle-aged, somewhat hysterical lady, who had long had uterine disease, and undergone division of the cervix uteri on account of it, was brought to me with an elongated, hard tumour in the left breast. When first observed, but three months before, it was no larger than a walnut; it was now five inches by four inches in its principal diameter, and nearly two inches thick. The tumour, on the removal of the breast, was found to be an ordinary scirrhus, and there were similar separate nodules in the adjoining healthy parts of the breast. In this case, Dr. Routh distinguished uterine disease by the characters of the mammary tumour.

Protracted and severe Uterine Disease. Cancer of the Breast.—In a somewhat similar case, kindly referred to me by Mr. De Morgan, swelling and ulceration of the os uteri, with pain, began three months after marriage, and continued for fifteen years. During that time, the lady was necessarily separated from her husband; and she underwent much treatment, having the cervix uteri slit, and the os wholly destroyed. At the end of that time, there were swellings in both breasts, that in the left being an indistinct and apparently inflammatory thickening, while those in the right were scirrhus cancer, adherent both to the pectoral muscle and to the skin.

Several patients, who had previously been under the care of Dr. Protheroe Smith for uterine disease, were kindly referred to me by him, on the supervision of tumours in the mammae; and in all of them, except those in whom operation was not advised, the diagnosis of cancer in the breast was confirmed. In one of these cases, a lady, aged fifty-six, there were tumours in both breasts, of which, that on the left side only was cancer. The mammary tumour first attracted attention, and I took occasion to refer to Dr. Protheroe Smith the question of their originating in uterine disease. That gentleman ascertained, on examination, that there had long been discomfort and irksome frequent micturition, and that the uterus was in a state of rather extreme and permanent flexion.

There appears to be reason to conclude that, however various other causes may be, whether of innocent or malignant tumours in the breast, yet, uterine or ovarian ailment precedes, with an observable frequency, the development of some mammary disease; that this disease may occupy either breast, or both; that, in its nature, it may be a transient, though chronic, induration of a segment of the breast, which may not be a strictly anatomical segment; that it may be a dense nodular enlargement of many of the lobules; that it may be an innocent glandular tumour; that mammary tumours, differing in construction, though alike in cause, may thus co-exist in the same person; that of concurrent tumours, not at first distinguishable from one another, some may subside on the abatement of the uterine symptoms, and one take the course of cancer; that mammary disease, following prolonged uterine ailment, may be cancer from the first.

ON SOME OF THE ADVANTAGES OF TAPPING IN THE TREATMENT OF OVARIAN TUMOURS.*

By GEORGE SOUTHAM, F.R.C.S. Eng.,
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IN recording the improvements in surgery during the nineteenth century, the future historian will no doubt ascribe to the present generation the merit of having established ovariectomy as a legitimate operation. As one of its earliest advocates ("Cases of Ovariectomy": *London Medical Gazette*, 1843; *Provincial Medical Journal*, 1845; *Provincial Transactions*, 1847), I naturally feel a deep interest in its success; but when I consider the high rate of mortality still attending it—admitted by the most experienced operators to be nearly one in three cases, and that the disease which it is intended to eradicate rarely destroys life for several years—I must confess that a grave responsibility attaches to the surgeon who recommends its adoption, as long as more simple means will keep the growth of the tumour in check and the patient's general health unimpaired.

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