the mothers of illegitimate children in England, quoting Dr. Hunter's official Report to the Privy Council on this point as follows. "A worse degree of criminality is found in older mothers. After losing a child or two, they begin to view the subject as one for ingenuity and speculation. It is related that, on the birth of a second or third, the neighbours will say, 'So-and-so has another baby; you'll see it won't live;' and that this becomes a sort of joke, in which the mother will join, public opinion expressing no condemnation of her cruelty. A medical man is called to the wasting infant, 'because there is so much bother with registering.' The mother says the child is dying, and won't touch food. When he offers food, the child is ravenous, and 'fit to tear the spoon to pieces.' On some of the few occasions on which the surgeon, in his disgust, has insisted on opening the body, the stomach and bowels have been found quite empty. It was in many places reported that infant life had been saved in the midst of one of these wastings by the threats of a determined surgeon or neighbour. Where the coroners have been induced to support these attempts to save life, where inquiry has been made, and severe admonition, with an appearance of a chance of committal, also where the registrar has pretended to refuse registration without medical certificate in families notorious for their loss of infants, in these cases an amendment has taken place. It was more than once related that women who had lost two or three children lost no more after it had been plainly signified to them that their proceedings were watched."

He shewed the frightful mortality in Foundling Hospitals, where all the laws of health were set at defiance. In the old Dublin Foundling Hospital in the last century, only some 135 lived out of 12,000 infants admitted. From this he passed to another neglected set of foundlings of an adult age—grown-up naturals or non-naturals, or in other words bachelors who deliberately perpetrated upon themselves suicide instead of perpetrating matrimony. He read from the report of the Registrar-General of Births, Marriages, and Deaths in Scotland, that at every quinquennial period of life from 20 years of age up to 85, the report shewed that married men died in Scotland at a much lower rate than the unmarried. Thus, from 20 to 25 years of age, in every thousand married men, only 6·26 died annually, but in every thousand unmarried men at the same ages, 15·01 died. From 25 to 30 years of age, only 8·23 died annually in every thousand married men, but 14·94 in every thousand unmarried. From 30 to 35 years of age, only 8·65 died in every thousand married men, but 15·94 in every thousand unmarried. From 45 to 50 years of age, in every thousand of each class, only 17·04 married, but 21·18 unmarried, died annually. In every thousand of each class from 50 to 55 years of age, 19·54 married men died annually, but 26·34 unmarried. In every thousand of each class from 60 to 65 years of age, 35·63 married men died annually, but 44·54 unmarried men. In every thousand of each class from 70 to 75 years of age, 81·36 married men died annually, but 102·17 unmarried men. Even at the extreme age of 80 to 85 years, in every thousand of each class, there died annually only 173·88 married men, but 195·40 unmarried. Recurring to the question of infantile mortality, Sir James Simpson, in eloquent terms, referred to the grand results of Jenner's discovery for small-pox, which saved eighty thousand lives in Great Britain annually; and if a similar rate of reduction in the number of deaths from small-pox held good in other kingdoms in Europe, four or five hundred thousand a-year fewer died from this malady than would have died seventy years ago. He went on to notice the opposition from various sources to the carrying out of the new discovery, and described how it was tellingly denounced and decried in various quarters, and its safety strongly called in question. Other recurrent diseases, such as scarlatina, measles, and whooping-cough, had to be battled against, and, if possible, a remedy found. In 1864, of scarlatina, 40,000 died in the United Kingdom; of measles, 12,000; of whooping-cough, 14,000. These diseases had to be conquered. Let them not be discouraged. The lancet of Jenner had saved a hundred-fold more lives than the sword of Napoleon destroyed. But the physician who might be fortunate enough to conquer the ravages of scarlatina or measles must not expect the reward or honours of a soldier who in war conquered a fighting Rajah or a Prince. If a man slaughtered 50,000 of his fellow-creatures, he was made a marquis; if 100,000, a duke; and for saving 30,000,000 every twenty-five years Jenner was rewarded with £30,000. He had, no doubt, had a statue erected to him in Trafalgar Square, but it had been taken down to make way for a statue of one of the fighting Napiers. Dr. Jenner's discovery saved from death in Great Britain twenty millions every quarter of a century; but that, of course, was not so honoured or honourable a work as killing a few thousands in battle. The Ministry and Parliament of England stamped with indignity even the bronze statue of the mightiest of their dead philanthropists, and ignominiously banished it from the supposed site of honour in London. Where it was now, he (Sir James) did not know; but he hoped that the Reformed Parliament would do justice to his name.

CLINICAL LECTURES

ON

THE DIAGNOSIS OF TUMOURS OF THE BREAST.

By THOMAS BRYANT, Esq., F.R.C.S.,*

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LECTURE I. (Concluded.)

General Remarks. Points to be noted in Cases of Tumour.

WITH these few remarks upon tumours generally, I will proceed to consider the special points and their value, which are to be learnt, firstly, in taking the history of a case of tumour of the breast; secondly, in examining it by the eye; and, thirdly, in making a careful manual examination.

1. *Points to be looked for in taking the History of a Case.* (a) *Age.* You may suppose that a knowledge of the age of a patient will be of little assistance to you in forming a diagnosis in a case of tumour of the breast; but I think I shall soon be able to prove to you that in such an opinion you are in error; for when I tell you that, from an analysis of fifty-four cases of adenoid tumours which I made some time since, at least 50 per cent., or half the whole number, occurred in patients under 24 years of age; and that of 222 cases of cancer of the breast, not one example appeared in a subject so young, you will readily see how the mere question of age becomes a guide towards solving the problem as to the nature of the growth. The further analysis of the two classes of cases was as follows.

Adenoid Tumours. Cancerous Tumours.

Under 32 years of age . . . 61 per cent. . . 12 per cent.
Above 32 years of age . . . 35 per cent. . . 86 per cent.

From these facts it would appear, that a tumour appearing in the breast of a woman under 24 years of age, is in all probability of an innocent nature, and in another under 32, the probabilities lie in the same direction. On the other hand, a tumour appearing in the breast of a woman over 32 is more likely to be of a cancerous than of an innocent kind, and as age increases the greater are the probabilities of the tumour being malignant. In a tumour of the breast in a woman over 40, you must have good evidence that cancer does not exist before you pronounce it to be simple.

In exceptional cases, however, cancers may attack the young, and adenoid tumours may appear in the old. In the *Pathological Society's Transactions* for this year, I have recorded an example of the latter in a woman over 70 years of age.

(b) *Social condition.* In taking the history of a case, it is well to inquire into the social condition of our patient; for the information will aid us to some extent in our diagnosis; and I will lay before you some facts that will bear me out in this assertion. In my analysis of cases to which I have alluded, I found that half the number of innocent tumours occurred in single women, whilst only a fourth of the cancerous tumours occurred amongst those in a similar condition. I also noticed that two-thirds of those persons afflicted with cancer were married; and that, when an adenoid tumour attacked a married woman, in eleven out of eighteen examples it appeared during pregnancy, and in two during suckling; I also observed that, when cancer attacked the single woman, it appeared at an earlier period of life than it did in the married. Cancerous diseases apparently fix on a gland during the period of its functional decline; this decline taking place at an earlier age in the single than in the married woman. Adenoid or innocent tumours apparently make their appearance in a gland during the period of its functional activity, that period being during young adult unmarried life, pregnancy, or suckling.

(c) *Duration of tumour.* There is much to be learnt by obtaining a true account as to the duration of a disease, and in the diagnosis of a tumour this point is of considerable value; for you well know a cancerous tumour generally runs its course in two or three years, although in rare examples it may exist for many more. Many of you may have seen that case of cancer which is now under my care, for she has been so for upwards of ten years. I am afraid, however, that it will soon prove fatal.

If a tumour have existed for many years, there is a strong probability that it is of an innocent nature; in a patient under my care at the present time, this point alone is enough to settle the diagnosis. In a woman about 40 years of age, a tumour exists which appears to occupy the breast itself; at any rate, the breast is spread out over the

* From Notes by Mr. Samuel Jackson.

disease, if not absorbed by it, and its local appearances are not unlike those frequently seen in a cancerous affection. The history tells us, however, that the disease has existed for twenty years, having appeared when the patient was about 20. This fact by itself is almost sufficient, if not quite so, to determine the nature of the disease, and to assure us that it is of an innocent kind; indeed I have no doubt as to the tumour being a splendid example of the adenoid affection. These facts alone are amply sufficient to prove to you that the question of duration is important for diagnostic purposes in tumours of the breast.

2. *Ocular Examination.* Having considered with sufficient care the chief points in the history of a case by which the diagnosis of a disease is to be determined, we will now proceed to consider the value of the information which is to be acquired by means of the eye; and the first point that demands our notice is the condition of the skin.

(a.) *Skin.* If you find the skin healthy and moveable, and learn that this condition of integument is associated with a tumour which has existed for many months, you will have some good reason to suspect the new growth to be of an innocent description. If you discover that the tumour has been growing for many years, that it is of some size, and that the integument over it is much distended and yet uninvolved in the disease, the probability that the tumour is of a simple character is much increased, if not certain. If the skin be so distended as to have ruptured, and you yet find on examination that the margin of the rupture is free from all disease, is not thickened or infiltrated, and appears as if punched out or cleanly cut, the probabilities are still greater that the tumour is innocent. For you must remember, what I have already told you, that the great characteristic of the cancerous tumour is, that it soon involves all parts with which it comes into contact; that in the breast, as it advances forwards, the skin soon becomes drawn down to the tumour beneath, then puckered, next infiltrated, and lastly ulcerated; that the skin soon becomes part of the disease, and infiltrated with the cancerous elements. In these external or visible indications, together with the points which have been acquired by the history of the case, you will find ample material to guide you in forming an opinion as to the nature of the case; but this opinion will have to be confirmed or confuted by the next mode of examination to which I shall have to allude—manual examination.

I will now shew you some patients suffering from cancerous disease, each one illustrating some stage of the disease to which I have alluded.

In the first case, the skin is only just becoming involved in the disease, and you will observe a depression or cupping of the integument on the region of the tumour; in the next, you will find that cupping of the skin has become more general, and a well-marked puckering of the integument is clearly visible; in the third, that puckering has become more complete, and an infiltration of the skin is to be seen; the next stage to the last to which your attention has been drawn, would be one of ulceration. These conditions of integument are very characteristic and very important; and, independently of fallacies to which your attention will be drawn in the next lecture, are only found in cancerous diseases.

(b.) *Retraction of the Nipple.* For diagnostic purposes, I have no hesitation in saying that to this symptom of a retracted nipple has been assigned a value to which it is not entitled; and, even at the present day, surgeons are disposed to look upon it as of more importance than it really is. The greatest of French surgeons, Nélaton, in commenting to the students, in one of his clinical lectures, upon a case of doubtful tumour of the breast, says, "Is this tumour innocent, or malignant? If the latter, there would be retraction of the nipple; for," he adds, "the surgeon should know that this is one of the first signs of malignant disease." In another case, he says: "The first idea in regard to this tumour was, that it was cancerous; yet the usual circumstances did not exist, and the retraction of the nipple was wanting." Yet the sequel proved the disease to have been of a cancerous nature.

I will give you also a more recent case, in which an American surgeon, who was with me in my out-patient room the other day, observing in one of the patients this symptom of a retracted nipple, at once expressed his opinion with some degree of certainty that the case was one of cancer; and with this same patient I have frequently trapped into an error in diagnosis many good and experienced men, who have looked upon this symptom as one of value, and as being characteristic of cancerous disease. I will now shew you the patient; and may tell you that it is one of chronic induration of the breast, with a retracted nipple; she has been under my care for some time with suppuration of the gland. Here are the openings of the old abscesses.

I would wish you, therefore, to remember that this symptom is by no means pathognomonic of cancer; for it is found under many different conditions. It may be congenital in its origin; it may be produced by an inflammatory affection of the gland, acute or chronic; it may exist in the innocent affections of the organ, in the cystic diseases, as well as

the malignant. That it does exist in the cancerous affections, it is not to be disputed; but that it is a frequent accompaniment of such a disease, is open to a doubt; for, in looking over my notes of two hundred and twenty-two cases of cancer of the breast, in all of which this symptom was looked for with some care, I find that a retracted nipple existed in only thirty-two cases, or in about 14 per cent. of the whole number. In fact, this retracted nipple may exist in every disease of the mammary gland, but is not pathognomonic of any. It is absent in the majority of cases of adenoid tumours, simply because these tumours are, as a rule, not of the gland itself; and, as a consequence, the nipple, with the gland-ducts, are not interfered with. For this retraction of the nipple is a mere accidental symptom; it is the result of mechanical causes; and its presence is determined by the manner in which the gland is involved in the disease, rather than by the nature of the affection itself. Should any tumour, simple or malignant, should any abscess, chronic or acute, attack the centre of the mammary gland, and thus separate the ducts and spread them out, the extremities of the ducts will necessarily be drawn upon, and retraction of the nipple is the obvious result.

(c.) *Outline of Tumour.* Having considered the diagnostic value of the different conditions of the skin which are presented to the eye by the varieties of tumour, and the due importance with which a retracted nipple should be regarded, the next point which strikes the eye on an ocular examination of a tumour refers to its outline; and in this, also, something is to be learnt of diagnostic importance. For, should the outline of the tumour be smooth and even, should it appear as a globular swelling in or about the breast, such as might be produced by a distended cyst, the question of the cystic nature of the tumour will naturally present itself; although it may be open to a doubt as to its being due to an hydatid, a chronic abscess, or a simple cyst.

Should the tumour present a more lobulated outline, should its surface be more or less bossy or botryoidal, the suspicion of its being of an adenoid character cannot but be raised. And, lastly, should the tumour appear but as an enlargement of the breast, either as a whole or as a part, should it present the appearances of a gland irregularly infiltrated with some new product, with no definite outline, no cystic appearance, and no lobulated form, a cancerous affection of the gland should at once be suspected; for the majority of cancers affect the gland in the way described, and the majority of simple affections put on the appearance to which your attention has been drawn; and from these external aspects of the tumour something is to be learnt in a diagnostic point of view. Still you must not be misled too much by appearances. Your opinion must rest on the collective evidence which you have acquired by the many means of investigation to which I have already alluded, and must be confirmed or confuted by the final test of accuracy to which I shall now draw your attention—a careful manual examination.

3. *Manual Examination.* We will now proceed to consider the value of such symptoms as may be revealed to us by the careful manipulation of a breast the subject of disease; and I would wish to impress upon you the necessity of withholding your opinion as to the nature of any case until this mode of investigation has been thoroughly exhausted; for this examination should be regarded as the final test as to the accuracy of the opinion which you may have formed during the two previous methods of inquiry. By a manual examination you will frequently have occasion to modify, if not to alter, the opinion you may have been led to entertain by the other modes of investigation; but you will as often experience the satisfaction of finding that the early impressions of the case are confirmed by the facts obtained by this last mode of inquiry. By this combined method of investigation alone can you establish a sound and scientific diagnosis.

But allow me, *en passant*, to ask you to exercise the greatest delicacy in your examination of a breast. Examine the gland thoroughly and completely; but do it with gentleness and consideration. In doubtful cases, examine your patient lying down. Take up the whole gland in your hand, and feel its condition. Ascertain, by manipulating every part, if an indurated mass exist; and, if so, whether it involve the whole gland, or only a portion. Should a tumour be present, make out its position in reference to the gland. Is it in it, upon it, or beneath it? Has it any connections with the gland? or is it a tumour developed in its neighbourhood, but not of it? Is the tumour moveable independently of the gland? and can the gland be raised up from, or separated from, the new growth? Should you be able to satisfy yourself upon these last points, you will have established a fact of no mean importance; for you may with considerable certainty conclude a tumour to be of a simple nature, which can be completely or nearly isolated from the breast, moved freely about independent of the gland, and from which the gland can be readily raised. Should the skin over the tumour be healthy and free; should the new growth have a lobulated, firm, fleshy feel; should the patient be young and single, or, if married, pregnant; should the tumour have existed for several years, and the glands in the

axilla be quite healthy,—the diagnosis becomes a certainty, and an adenoid tumour may with confidence be pronounced to exist.

With these remarks upon the diagnosis of the adenoid or innocent tumour of the breast—a form of tumour which, you will have observed, has but little connexion with the breast itself, and is not a disease of the true gland—I must close my present lecture, leaving the consideration of the diagnosis of a tumour which is evidently situated in the gland itself for consideration at our next meeting.

ON LIGATURE OF THE FEMORAL ARTERY ACCORDING TO THE PLAN OF THE LATE PROFESSOR PORTER.*

By RAWDON MACNAMARA, L.K.Q.C.P.I.,

Surgeon to the Meath Hospital, and Professor of Materia Medica in the Royal College of Surgeons of Ireland.

IN Mr. Erichsen's work on *Surgery*, when speaking of the propriety of deligating the common femoral artery, after stating the objections to the procedure, he winds up with this remarkable passage: "This operation, I think, therefore, should be banished from surgery." Whether this sentence is as just as it is sweeping, is the object of the present communication. It is true, in the present position of surgery with respect to aneurism occurring in the popliteal space, that ligature of the femoral artery has been deprived of a great portion of its importance in consequence of the success attending its treatment by compression; and it is equally true, that the surgeons of this city have borne no small share in bringing about this most important improvement in practice. Still, cases will occasionally occur which either are unsuited for treatment by compression, or in which, no matter how diligently or scientifically employed, it will fail in effecting a cure; and then our only resource is occlusion of the main vessel, either by the old-fashioned, time-honoured ligature, or by the more modern system, acupressure. When such cases present themselves, therefore, it is all-important that that form of operation should be selected which, beyond all other considerations, is attended with the minimum of risk to the patient's life, and which (a minor consideration, to be sure), is easiest of execution by the surgeon. Should ever the operation, the merits of which I am about to bring under notice on the present occasion, be recognised as the proper one to be selected under circumstances calling for deligation of the femoral artery, it will be a subject of interest to look back and observe how, as the science of operative surgery progressed, the tendency has been to ascend higher in selecting the site for its deligation—from Hunter's canal to Scarpa's space, and now from Scarpa's space to what, I doubt not, will yet be known as Porter's space.

The manner of securing the vessel in this situation will require but a few words to bring it in all its details before your mind's eye:—a transverse incision, about two inches in length, parallel with, but half an inch below, Poupart's ligament; the incision being so effected as to leave the artery in its centre. The method of performing this incision is simple in the extreme. A fold of skin is pinched up—the operator himself holding one side of the fold, his assistant the other; and it is transfixed with a sharp-pointed bistoury; and, by cutting outwards, the first incision will be completed. The most ordinary care will ensure the artery's being in some portion of the wound. A very few touches of the scalpel, with the assistance of a director, will now expose the vessel; and it can be secured in any way that the operator may select. This plate, published some years back by the present Mr. Porter, will at a glance enable you to take in all the details of his father's operation. The great advantage of this operation is that, in this situation, the artery is widely separated from its vein; and consequently there is no danger of wounding it. When I say "widely" separated, of course I speak in an anatomical sense; the space lying between them in reality being about two to four lines. All operating surgeons know the danger that exists of wounding the vein when either Hunter's or Scarpa's space is selected as the site of operation; and the records of surgery are not wanting in numerous cases where, in the most skillful hands, this accident has, I may almost say, unavoidably occurred. The lamentable results of such an accident as including the vein in the ligature require not to be dwelt upon here by me. All this is gotten rid of by selecting Porter's space. The vein cannot be wounded, much less included in the ligature; and thus deligation of the femoral artery is happily freed from one of its most serious risks. The facility with which the artery is reached also is a recommendation. After the first incision, a very few and very trifling touches of the scalpel bring us down upon it; in fact, the sur-

geon who performs this operation for the first time will be surprised at the facility with which he will in this situation reach the artery. As to the vein, he need have no apprehension about it: it is far out of his way; and, unless by the most stupid bungling, he cannot in any way injure it. As to hæmorrhage, in all the cases which I have seen, the operation was all but a bloodless one; no vessel being wounded; no ligature but that for the femoral itself being called into requisition. To speculate, therefore, after such a statement, on what vessels might be wounded, would be an unjustifiable intrusion upon the time of the Association, when so many important communications await their turn. As to the close proximity of the profunda interfering with the formation of a coagulum, theory is one thing, facts another; and as long, but no longer, as theory harmonises with facts, I will accept the theory; but, when theory is unsupported by facts, I most respectfully decline to accept the theory, no matter from what quarter it may emanate; and, upon this point, I shall presently direct attention to the facts of the operation, as observed in this city. It has been objected also to this operation, that tying the artery above the profunda cuts off the supply of blood from the limb—a circumstance that would militate against a successful result; but deligation of the same artery a little higher up (for really the external iliac may be so considered) is obnoxious to the same charge, and yet this operation is one of the most successful amongst our greater surgical procedures. But, fortunately, theory in this instance harmonises with facts; for anatomy teaches us that, if the femoral artery be tied above the profunda, the current of blood would find its way through the anastomoses existing between the obturator and the internal circumflex arteries; the ilio-lumbar, with the circumflex ilii; the gluteal, sciatic, and pudic, with the internal and external circumflex, and with the perforating branch of the profunda; and, as I trust to prove to your satisfaction, in practice these anastomoses are found to be quite sufficient to carry on the circulation efficiently.

I shall now proceed to bring this operation, in its relation to surgical practice, under your consideration. It has already been performed eight times in this city—three times by the late Professor Porter, once by the late Mr. Smyly, once by Mr. Butcher, once by Mr. Porter, once by Mr. Collis, and once by myself. Mr. Butcher's case was fatal, as was also Mr. Collis's; all the rest made good recoveries, and, so far as I know, are still alive. So that, out of eight cases operated upon in Porter's space, we have six recoveries to two deaths—a sufficiently respectable result for an operation that should be banished from surgery! But, if we analyse the two unsuccessful cases, the results will be still more favourable. In Mr. Collis's case, as you will perceive from this morbid specimen, a most unfortunate anomaly exists in respect to the giving off of the profunda—it detaching itself from the femoral at the very point where the ligature was applied. In Mr. Butcher's case, the operation was performed for a wound of the profunda artery, in which, after most persevering exertions, he was unable to reach the wounded vessel itself, and consequently he ligatured the femoral in Porter's space; and, although the patient died in eleven hours after the operation, it, so far as operative interference goes, has a just right to be looked upon as a successful case, inasmuch as the patient lost no more blood after Mr. Butcher tied the femoral, the poor man having evidently sunk from the effects of all the blood he had lost previously to Mr. Butcher's seeing him. At all events, it has no right to be considered one way or other in calculating the statistics of this mode of procedure.

The case in which I was called upon to tie this vessel was, in many respects, a most interesting one. It was that of John Donoghoe, whose leg I amputated for extensively diseased tibia, associated with enormous abscess in the belly of the gastrocnemius muscle. The morbid specimen on the table shows the condition in which the tibia was. I say this case was in many respects a most interesting one; and that it was so will be admitted, when I state that it was the first important operation in which the merits of acupressure had been tested in this city. I had previously used it in minor operations, such as ablation of the breast, etc., with such satisfactory results as to justify my employing it on the present occasion. I also selected Mr. Syme's operation through the condyles of the femur, with long posterior flap; and nothing could be more satisfactory than the appearances the stump presented for some days. The needles were all removed within forty-eight hours, not one drop of blood escaping; and everything seemed to promise a rapid and satisfactory convalescence, when from some cause, to me inexplicable, the shaft of the femur appeared to take on the same form of disease as the tibia had suffered from; pus formed deep down in the muscles, requiring deep and free incision to give it vent; and for many days large quantities of pus were poured forth, until, on visiting him one morning, I found the whole stump one vast pulsating tumour, the artery having been evidently opened by the progress of the ulcerative process. That this had nothing to do with the acupressure, I think will be admitted, when I state that the needles had been removed on the 9th of April, and that this pulsating

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