

ART. XIII.—*Observations on the Pathology and Treatment of Gonorrhœal Discharges in the Female.* By JOHN C. EGAN, M. D., M. R. I. A., F. R. C. S. I., lately one of the Surgeons to the Westmoreland Lock Hospital.

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SINCE the time of Hunter to the present day, venereal diseases, in all their varied forms, local and constitutional, have received more than an ordinary share of attention from well educated practitioners of every country; and, however conflicting the opinions as regards the history and pathology of these affections, or however different the treatment pursued in the choice and application of remedial agents, it must be acknowledged that extensive opportunities of investigation and considerable research have been brought to bear, by the majority of contributors, to this branch of special pathology.

The practice of inoculation, in assisting the diagnosis and treatment of this class of diseases, has afforded us ample means of distinguishing between two affections previously considered by many as identical; and the discovery of urethral chancres, while it explains an apparent anomaly, has tended, in no insignificant degree, to pave the way to a more scientific and certain mode of cure.

But if we examine the records of syphilitic surgery, we will find that the observations and experiments of British authors have, with the exception of a few, whose experience had been acquired in continental institutions, been exclusively confined to the male sex; while the disease, as it exhibits itself in the female, is passed over in so loose and desultory a manner as to lead the reader to imagine that there is no appreciable difference in the symptoms, and that the line of treatment recommended in the one sex is to be strictly adhered to in the other. That this, as a general rule, will hold good, must be obvious to all; but that it is to be received as an universal law,

to which no exception can be added, would be, indeed, to argue from false and inconclusive premises, and would betray an amount of ignorance inconsistent with the education of any practitioner in surgery at present.

It is true, as has long since been stated by Mr. Hunter's commentator, Dr. Adams, that chancres are the same in the female as the male,—that the same precise degree of induration and excavation is attendant on the true syphilitic ulcer in the one sex as the other,—and that all the varieties of venereal ulceration in the male and female bear a close similitude to each other, and are alike amenable to the test of inoculation. It is equally true that all the forms of eruption, commonly called secondary symptoms, consequent on primary infection, together with the modifications of sore throat, are identical in both sexes, and that when the disease attacks the osseous system it admits of no distinct classification. So far we have an unity of symptoms, and a corresponding sameness of treatment necessary. If, however, we prosecute our inquiry still further, and examine other forms of disease consequent on impure sexual intercourse, of far greater importance, because of much greater frequency at the present day, we will discover that the same analogy that we might, *à priori*, expect to meet, does not now hold good, and that our opinion as to the structures engaged, and the remedies to be employed, must undergo a decided change, if we wish to treat this other form of disease on sound and scientific principles, and if we would desire to be successful in our practice. I allude to gonorrhœal discharges, the pathology and treatment of which, in the female, will form the subject of this communication. Did space permit, it might not be considered as altogether uninteresting or unimportant to trace the history of gonorrhœa, and to demonstrate, which I conceive can be easily done, from historic evidence, both sacred and profane, its existence in the earliest and most remote ages of the world. As such an inquiry, however, would, if carefully and accurately conducted, demand more space than is gene-

rally allotted to papers such as this, I pass on to the consideration of topics of more practical utility.

If we examine, by way of contrast, this affection as it presents in the male, we will be able to ascribe it to inflammation, of a more or less acute nature, of the mucous membrane of the urethra, accompanied by the secretion of muco-purulent matter, generally attended with pain and irritation in voiding the urine, and with involuntary erections of the penis. This inflammation is owing to the anatomical arrangement of the mucous membrane in this particular situation, most commonly limited to the fossa navicularis and neighbourhood of the bulb; contrary, however, to the opinion of Hunter, it sometimes engages the whole extent of the mucous lining of the urethra, constituting the gonorrhœa virulenta of some authors,—a term restricted by others to the disease when attended with chancres in the urethra.

Insufficient opportunity, together with the force of prejudice, have hitherto operated against the employment of the speculum vaginæ on any very extensive scale in this country; and we are consequently obliged to refer to results furnished by continental hospitals, in order to guide us in arriving at any conclusion as regards the pathology of vaginal discharges. How far these results have been attested, and to what extent they may be relied upon in leading us to any correct knowledge of the principal cause of the disease, as it presents itself in this country, we shall now proceed to inquire.

Chancres of the cervix uteri are of such rare occurrence as seldom to form the cause of vaginal discharges, or to simulate gonorrhœa. Thus in his treatise on Venereal Diseases, M. Ricord only details the history of one such case; and in his table of inoculations but twelve instances are recorded as coming under his notice in the venereal hospital from 1831 to 1836.

M. Gibert, for many years physician to the Lourcine, met with but three examples; M. Cullerier, during a long attend-

ance on the Paris venereal hospital, observed but three; Mr. Bennett, for seven years connected with the Paris hospital, witnessed only two. MM. Emery and Duparcque, whose practice in uterine diseases has been by no means inconsiderable, look upon this form of disease as extremely uncommon; and I may add, that during a period of upwards of four years, which I had been attached to the Lock Hospital in this city, I did not see a single example of the Hunterian chancre on the cervix uteri. But although this specific form of ulceration is seldom encountered by those who enjoy the most extensive opportunities of investigation, yet there is a species of ulceration met with and described by writers of the French school, as exceedingly common in females affected with vaginal discharges, and which they denominate "granular erosion." "This ulceration," says M. Gibert, "always rather superficial, generally has a rounded form, and is more or less plainly limited; it occupies sometimes the superior lips, sometimes the inferior, and sometimes the two, and sometimes it even appears to penetrate into the cavity of the cervix uteri: its surface is red and granular, and contrasts notably with the smooth and polished surface of the normal neck, and it bleeds easily. Generally speaking, a veil of viscous, semi-transparent mucus, which flows from the orifice of the neck of the uterus, covers the granular erosion." Out of 500 cases which he examined, M. Gibert discovered the existence of this form of ulceration in 144, some of whom, however, were exempt from any vaginal discharge. M. Ricord states that this condition of the cervix is met with in nineteen out of twenty cases of gonorrhœal discharge, and that whenever these peculiar erosions are discovered, there can be no doubt of the gonorrhœal origin of the disease; and thus relies almost exclusively on this symptom in forming a differential diagnosis between this disease and leucorrhœa. Mr. Bennett, to whom I have already alluded, is of opinion, that this peculiar lesion is not only exceedingly

common in women labouring under blennorrhagic discharges, but is also frequently to be found in females suffering from the secondary forms of syphilis. "In the spring and summer of 1843," he writes, "whilst in charge at St. Louis of a female skin ward of seventy-five beds, in which there were always a great number of syphilitical skin-affections, I carefully examined with the speculum all that were so affected, in order to ascertain what was the state of the internal genital organs. I was led to adopt this course by finding, *on inquiry*, that several of these patients who presented no syphilitical disease of the external genital organs, except trifling leucorrhœa, were labouring under the symptoms I have enumerated as indicating slight inflammation and ulceration of the cervix uteri. On examining these latter patients I found the cervix ulcerated, and slightly indurated, and it then occurred to me that others might be similarly affected, although they had not directed my attention to any symptoms of uterine disease. To my great surprise I found that three out of four, perhaps more, also presented ulcerations of the cervix. Most of these patients were young women, who had either never borne children, or had been confined several years previously, and were under treatment for syphilitical psoriasis, lichen, rupia, &c." And further on he adds: "The prevalence of ulceration in women labouring under the various forms of syphilis, without vaginitis, is certainly singular, but I am inclined to attribute it to the abandoned life which they nearly all lead, or have led."

Mr. Acton, formerly externe at the female venereal hospital, Paris, observes: "We have found the mucous membrane, in its whole extent, or in isolated points, of a red colour, accompanied by swelling, heat, and pain, unattended by any secretion, thus presenting an erysipelatous state, which may last a short time, and then disappear. We have seen other cases, which presented the first stage of catarrhal inflammation, give rise to a morbid secretion, the colour and consistence of

which are very variable: this difference seems to have no reference to the cause which has produced it. In examining the vulva, vagina, or neck of the uterus, we have observed the mucous membrane covered with papulæ, or follicles, more or less developed, constituting a papular vaginitis, or utero-vaginitis, a *psorélytrie*, as M. Ricord terms it, sometimes assuming the form of small spots, in size not larger than a pin's head, and isolated, or more or less confluent. In other cases these papulæ look like granulations deprived of their epithelium; lastly, they may assume a fungous appearance of the form of vegetations. On the same portions of the mucous membrane we have distinctly seen patches, more or less numerous, and varying in extent, which have a striking analogy with the suppurating surface of the skin, on which a blister has been applied." "M. Ricord," he adds, "has likewise witnessed a case in which an eruption of herpes phlyctenoides was present on the neck of the uterus and the posterior part of the vagina; lastly, we may find ulcerations of every description seated on the whole or any part of the surface of the genito-urinary mucous membrane."

Illustrative of the foregoing description, Mr. Acton has furnished a fasciculus of plates, exhibiting the different appearances presented on examination of the vagina and neck of the uterus. Inflammation of the vulva and vagina has been found to exist solely, or conjointly with a granular condition of the cervix uteri; and the urethra has been stated by M. Ricord to be affected in eight out of every twelve cases of gonorrhœa.

Having thus briefly reviewed the labours, and recorded the opinions, of those whose investigations had been carried on in continental hospitals, I shall now proceed to the description of those cases which came under my immediate inspection in our Lock Hospital. The prevalence of gonorrhœa during the last few years in this city afforded me an opportunity of examining, by means of the speculum, a vast number of females affected

with vaginal discharges, many of whom were at the same time labouring under some of the secondary or tertiary forms of syphilis, in most instances the result of previous infection.

As no British hospital has, as far as I am aware, contributed any information on the pathology or treatment of gonorrhœa in the female, the following details, which I have drawn up in a statistical form, and which differ in some important particulars from those furnished by the majority of writers already cited, will not, I trust, prove altogether devoid of interest to the profession. The particulars of the cases, and the appearances presented, were carefully and accurately noted, in the presence of the patients, immediately after examination; and in no instance have I trusted to memory for a description of the appearances about to be detailed.

I possess a tabulated statistical summary of the particulars of 112 cases(*a*), from which it will at once be evident that gonorrhœa in the female is not confined to the vagina, as is generally supposed, but extends itself to the uterus, always, as far as my observation goes, involving the neck of that organ, and very frequently penetrating the cavity of the uterus itself, and thus, by a vitiated secretion of muco-purulent matter from the cervix uteri, or from the internal lining membrane of the uterus, the disease may be kept up for an indefinite period, while the vagina may be perfectly healthy. Such was the case in fourteen instances detailed, in which no disease of the vulva or nymphæ was apparent, while a copious discharge was the result of a diseased state of the uterus.

In ninety-eight cases the vagina presented a more or less inflamed appearance.

In thirty-eight, granular erosions were apparent on the cervix uteri, with attendant induration in six.

In fifty-seven the os and cervix exhibited an erythematous condition, generally accompanied with engorgement and slight induration.

(*a*) These tables were exhibited at the Surgical Society.

In six there was hypertrophy of the anterior lip of the os uteri.

In six there was enlargement of the posterior lip. In thirteen both lips were equally engaged.

In ninety-seven the uterus participated in the disease, which was evinced by a muco-purulent discharge from the os.

The duration of the disease previous to examination was as follows:

CASES.	WEEKS.	CASES.	MONTHS.	CASES.	YEARS.
1	1	11	1	11	1
11	2	18	2	8	2
8	3	7	3	1	3
3	5	4	4	1	4
1	6	4	5	1	7
1	10	8	6	1	8
1	11	2	8		
		3	9		
		4	18		

In describing the form of vaginal inflammation met with, I have termed it subacute, but this, it will be remembered, was the condition found at the time when examination by means of the speculum was allowable, as in every instance of recent infection this state was preceded by inflammatory symptoms of an acute nature, where the introduction of the speculum was, for obvious reasons, contra-indicated. The mucous membrane of the vagina, especially at its superior part, was occasionally the seat of abrasions; this appearance was observable sometimes in isolated patches, and sometimes as one continuous superficial breach of surface; in a few of these the skin was either affected with a papular eruption at the time of examination, or subsequently became so: whether this secondary form of disease was owing to the action of the gonorrhœal secretion, or consequent on previous infection, I do not undertake to decide<sup>(a)</sup>.

(a) "Under no circumstances can it (gonorrhœa) produce chancre; but as an irritating matter, like that of coryza for instance, it may excoriate the



The interior of the vagina has likewise, in a few cases, presented that papular or follicular condition, described by M. Ricord, which will be seen by reference to the table.

It will further be observed that granular erosions of the neck of the uterus were only discernible in about one-third of the patients subjected to examination, a statement at variance with the results of continental writers, more especially with those of M. Ricord, who affirms that this peculiar lesion of the cervix uteri is to be found in nineteen out of twenty cases of gonorrhœa, thus enabling him to decide between the infectious and the more common forms of vaginal discharges to which females are liable. I think, however, from the absence of this symptom of disease in women, where no doubt can exist as to the venereal origin of the affection, and, on the other hand, from its occasional presence in females labouring under leucorrhœa(a), whose rank of life and virtuous habits place them beyond all suspicion of infection, we would not be justified, in this country at least, in pronouncing, either in a medico-legal point of view or otherwise, a positive opinion as to the nature of the disease from any evidence derived from this source; the only testimony, therefore, on which we can rely with any degree of certainty, must be grounded on the previous history of the case, which, for obvious reasons, cannot be at all times implicitly depended upon.

The most common appearance I have met with is that which I have described as an erythematous condition of the cervix, generally accompanied with engorgement and slight induration; this was in many cases concealed from view by the intervention of a thin, semitransparent stratum of muco-purulent matter, with which the inflamed cervix was slightly coated. This condition was almost invariably accompanied with a dis-

skin, with which it remains sometimes in contact, but it never produces a specific ulcer."—*Ricord*, p. 59.

(a) See a paper on affections of the uterus, by Dr. Evory Kennedy, in the *Dublin Quarterly Journal*, for February, 1847.

charge, from the interior of the uterus, of a very tenacious and almost purulent matter, forming in this respect a marked difference between this secretion and that furnished by the vagina and exterior of the uterus. A string of this ropy material was generally found suspended from the os tinæ, which was with considerable difficulty disengaged and removed with the assistance of a sponge. This, together with menstrual irregularity, will, I doubt not, in a great measure, account for the almost universal sterility common to this class of females. The same disposition has been observed by Messrs. Gendrin, Jobert, and Emery, in young married women labouring under leucorrhœa(a).

The duration of the disease will appear, perhaps, to some unusually protracted, extending, in one instance, over a period of eight years: it must, however, be borne in mind, that the individuals of whom this Essay treats, were, for the most part, from their dissolute habits, continually the subjects of renewed infection, their sole subsistence being derived from a constant life of prostitution. But such was not the case with all. Some there were, who, determined to abandon a life of misery and profligacy, but against whom—destined to suffer “the orphanage that springs not from the grave”—were closed for ever the doors of that humble, but once virtuous and happy home, whence they had been allured by the snares of their heartless seducer, took refuge within the walls of one of those quiet retreats which afford an asylum to the unprotected: in some of those, relapses after apparent cure, brought on by bodily exertion, as washing, &c., were by no means unfrequent. This form of disease, the consecutive gonorrhœa of Hecker, appeared to be the result of a general relaxation of constitution, in which a tonic line of treatment was obviously indicated. In these latter cases the interior of the uterus was always affected(b).

(a) See Bennett on Inflammation, &c., of the Neck of the Uterus, p. 21.

(b) Attached to the Lock Hospital is an asylum for a limited number of

The symptoms present on the invasion of the disease were generally of an inflammatory nature, swelling of one or both labiæ, pain and difficulty in micturition, with a sensation of heat and weight in the lower part of the pelvis; these generally subsided in a few days by rest in the recumbent posture, a copious use of demulcent drinks, with the occasional aid of fomentations; a spare form of dietary being at the same time strictly enjoined. General depletion was seldom resorted to, and local blood-letting was always contra-indicated, from the disposition which leech-bites, under those circumstances, assume to degenerate into foul and unmanageable ulcers. Nauseating doses of tartar emetic were found to answer fully every indication required in this stage of the disease. Unlike the same affection in the male, we possess no remedy which can exert any specific influence over the disease when taken internally. The balsams, cubebs, &c., which are found so efficacious in arresting the discharge in the male, may be looked upon as almost inert in the female; our attention must, therefore, be principally directed to local applications, which it will be necessary to alternate one with the other during the course of treatment. Solutions of chloride of lime, and injections of alum, are extremely useful in cleansing the parts and astringing the vagina, which is usually in a relaxed condition; and in a more advanced stage, a strong solution of nitrate of silver injected into the vagina will be found to act beneficially.

The most successful plan of treatment, however, is that recommended by M. Ricord, which consists in the application of the solid nitrate of silver to the sides of the vagina and neck of the uterus; the immediate effect of this application will be to increase the discharge, but it will, after a few repetitions,

females, who, when convalescent, frequently avail themselves of the advantages this institution offers; and in immediate connexion with it, but on a larger scale, is another of a similar nature. Both these penitentiaries have been established by the indefatigable and philanthropic exertions of P. Æ. Singer, Esq., the senior governor of the hospital.

either diminish it considerably, or arrest it altogether. I have likewise been in the habit of applying to the same diseased structures, and with like beneficial results, the acid nitrate of mercury; this caustic I have found to succeed when the nitrate of silver had failed in effecting a cure. I may here, in passing, observe, that in many cases of inveterate amenorrhœa, which had resisted every form of constitutional treatment, the direct application of caustics to the cervix uteri was followed by a re-establishment of the healthy uterine secretion, at first scanty, but after a short time normal, both as to quality and quantity. I was not aware that this fact had been noted by any previous writer, until looking into M. Ricord's work within the last few days, I find that the same circumstance is recorded as the result of his experience<sup>(a)</sup>. The separation of the walls of the vagina, by means of a plug of lint, will assist materially in the cure of the disease. Counter-irritation, through the medium of blisters to the sacrum, and the actual cautery, as first recommended by Dr. Corrigan in sciatica, and successfully employed in some cases of leucorrhœa, will prove valuable adjuvants in protracted cases. From the frequent participation of the uterus in the disease, injections of the nitrates of mercury and silver have been respectively recommended to be thrown into the cavity of that organ: this is a mode of treatment, however, which, I confess, timidity prevented me resorting to, I shall, therefore, transcribe a passage from M. Ricord's work, bearing upon this particular part of the subject: "Wearied," he says, "with the protracted continuance of certain uterine discharges, I made some attempt to cure them. I first used an injection of one part of nitrate of mercury and eight of water. Some patients had very violent hysterical attacks; one of them had a cerebral congestion, which caused a momentary apprehension of apoplexy. These symptoms, which all arose a few minutes after the injections, yielded

(a) Ricord, p. 328.

very rapidly to antispasmodics; and in the case with cerebral congestion, on a quantity of blood being taken from the arm. Although the affections submitted to this treatment were either cured or partially so, I was obliged to reduce the doses, to avoid the serious consequences. I subsequently obtained some cures with one part of nitrate of mercury to twelve of water, without producing the symptoms I before mentioned; but yet the action of these injections was not always unattended with pain, or some nervous reaction of an hysterical character. I then substituted six grains of nitrate of silver to the ounce of water, and found that in some instances a chronic purulent uterine discharge was cured after two or three injections.”(a) In order to guard against the danger attending the indiscriminate use of injections into the cavity of the uterus, Dr. Evory Kennedy observes: “ We have been in the habit of using injections freely into the uterus for some years without any inconvenience, until we observed a case published in one of the periodicals about nine years ago, in which this operation was reported to have been followed by fatal peritonitis, in consequence of the injected fluid escaping into the abdominal cavity through the Fallopian tube; since then we have adopted this practice less frequently, and with such precautions as to prevent the possibility of any mischief of this kind occurring. By means of a long, graduated glass syringe, a quantity of fluid, not exceeding twenty minims, can be thrown into the cavity of the uterus, and its escape secured in the following manner:—the syringe attached accurately to a small, male, gum-elastic catheter, is fitted into a somewhat shorter catheter or tube, open and well finished at its extremity; the difference in caliber between the catheters being such, that the large catheter admits of the regurgitation of the fluid between it and the smaller. The syringe and inner catheter are first charged with the fluid to the point, leaving the piston so far withdrawn

as to allow merely twenty minims, or half a drachm, in addition to the charging of the tube within the cylinder of the syringe, as proved by the graduated mark on its side. The patient is now placed in the recumbent posture, the tube introduced, the inner catheter (graduated also, so as to indicate when it projects beyond the other) is passed through, and the fluid slowly projected into the cavity of the uterus. After resting there as long as we wish, the piston may be drawn up, so as to suck any remaining portion of the fluid, and a little water thrown in, in the same manner, if required, or the larger tube allowed to remain, so as to secure the escape of any remaining fluid.”(a).

As a substitute for injections into the uterus, I was frequently in the habit of introducing through the os a finely pointed pencil of nitrate of silver, and allowing it to remain in contact with the lining membrane of the uterus for a minute or two; this usually caused a momentary sensation of pain, but was attended with no ulterior ill effects. To guard against the danger that might arise from the breaking of the caustic, and it remaining in the cavity of the uterus, Dr. Kennedy suggests the propriety of melting it into a *porte caustique*, in the manner recommended by Mr. Wilde in the treatment of disease of the meatus auditorius and tympanum.

Conjointly with the topical applications described, I have found preparations of steel, more particularly the compound iron mixture, very efficacious in restoring the uterus to its original healthy condition.

(a) On Affections of the Uterus, Dublin Quarterly Journal, Feb. 1847.