first examined agrees closely with that observed in other cases a few days after the occurrence of embolism. Hence it is probable in the highest degree that the retinal and cerebral embolisms were simultaneous.

What was the position of the obstruction? I do not think that the plug figured can be regarded as that which effected the closure of the artery. Its size is not sufficient, and there is no narrowing of the vessel at the spot to account for the arrest of so minute a plug. The artery also was contracted behind it, and the contraction extended, with intervals of dilatation, as far back as the examination of the optic nerve extended, which was nearly, but not quite, as far as the entrance of the central artery into the substance of the nerve. The artery was traced, with the scalpel, from its origin from the ophthalmic as far as its entrance into the nerve, and no plug was seen, but a microscopical examination of the vessel was not made. The numerous fragments of fibrin to be seen in the vessels of the nerve and disc show how much material must have been discharged into the vessel at the time of the embolism. It is probable that the chief obstruction was situated where the artery enters the nerve.

A ready collateral circulation must have been established, for the arteries, as seen with the ophthalmoscope, maintained their thread-like dimensions only for a very short distance after leaving the disc, and then resumed a distinct though diminished contour. The blood reached them no doubt from the posterior ciliary arteries. It is often assumed that the vessels of the disc form an important part of the means of communication. The opinion rests on the statement of Leber that the disc is supplied by the posterior ciliaries. But surely the marked and increasing pallor of the disc in this and in almost all cases of embolism is in contradiction to the assumption. An exception was the case of Wecker's,* in which an obstruction of a branch of the artery was followed by increased vascularity of the corresponding portion of the disc. But the case stands alone. Pallor of the corresponding part of the disc is more common, as Mr. Nettleship has lately pointed out; and in a patient of Mr. Streatfeild's, whom I saw some time ago, in which there was obstruction (doubtless from embolism) of one branch, with corresponding segmentary loss of sight, there was not a trace of increased vascularity in the corresponding portion of the disc. The pallor of disc in these cases depends, as Gradenigo† has pointed out, on anæmia, rather than on tissue proliferation. No capillaries were visible, although carefully looked for, in the case I have just described; and neither the tissue-formation nor the degeneration of the nerve-fibres was sufficient to account for the pallor. But there was distinct distension of small vessels in the retina outside the limits of the disc, and it is, I think, clear that it was by the vessels near the papilla, and not by those in the disc, that the collateral circulation had been set up.

The retinal appearances, as seen with the ophthalmoscope, do not differ in any material point from those of most other cases recorded. It is, however, to be noted that when first examined, five days after the presumed onset, the opacity of the retina was as marked around the disc as around the macula lutea. Moreover, the red spot at the macula lutea, so often described, was absent.

This fact is of interest in connexion with the diagnosis of embolism within the artery from hæmorrhage around it. The absence of a red spot at the macula and the presence of early infiltration around the disc are given by Magnus as diagnostic indications of hæmorrhage around the nerve. In the case now described, unquestionably embolic, the spot at the macula was absent, and by the fifth day the infiltration around the papilla was very marked.

The anatomical changes in the retina corresponded to the opacity observed during life, and still present, although in less degree, at the time of death. They indicate more structural change than is, I think, commonly supposed to occur in these cases. The adhesion of the pigmentary epithelium to the outer nuclear layer may perhaps be taken as evidence that the destruction of the layer of rods and cones at this part was not a mere post-mortem change, but occurred during the active processes consequent on the arterial obstruction.

ON A CASE IN WHICH IRRITABILITY OF THE FEMALE BLADDER OF FIFTEEN YEARS' STANDING WAS CURED BY DILATATION OF THE URETHRA AND NECK OF THE BLADDER.*

By H. BENDELACK HEWETSON, M.R.C.S.

THE notes of the case I am about to relate are of extreme importance in connexion with an operation, still on its trial, introduced by Mr. Pridgin Teale, and but recently published,† which comprises dilatation of the urethra in the female for the relief of irritability of the bladder, and, as in this case, occasional retention of urine. The absolute success attendant upon its performance in some cases, and its partial, if not complete, failure in others, render it incumbent on us to keep strict records of the symptoms, general as well as local, which affect females the subjects of irritable bladder upon whom this operation is performed. The extent to which the dilatation of the urethra is carried should especially be noted, since the partial or complete failures may possibly be the result of too cautious stretching from fear of producing incontinence of urine. Moreover, the general symptoms must be taken into account, for it may be that it is upon them the surgeon is consulted, without the slightest reference being made (as this case will show) to the more delicate point of irritability of the bladder; when it is upon the latter trouble that the general malaise depends.

Following are the notes of the case:—

Miss M—, aged thirty-six, sent for me on the night of March 3rd, 1875. On arrival at her home, I found her to be suffering intensely from retention of urine. I relieved her (by the use of the catheter) of a large quantity of urine, such an amount as must have distended the bladder nearly if not quite up to the umbilicus. This point I did not test, being anxious to relieve her without delay from the worst agony of retention. The retention returned in a day or two, and I had again recourse to the use of the catheter.

Her previous history is as follows:—That she was a perfectly strong and robust woman, following the arduous duties of a "present day" schoolmistress until fifteen years ago, when she was seized with an inflammation of the bladder, for such it was termed by her medical attendant. This was followed by the formation of a small abscess in the region of the urethra, which discharged of itself. Since that time her health has been bad, preventing the continuance of her calling. She states that since her recovery from this attack, her nights have been wakeful and disturbed by being constantly "every half hour or hour" obliged to get up to pass small quantities of urine with great effort and some pain. She is low and depressed, with almost constant headache, loss of appetite, and continual bearing down, resulting in a total unfitness for prolonged exertion of any kind. She has lost flesh considerably, and has for several years been set down by her numerous friends and medical advisers, to whom she had made no reference to her urinary troubles, as a confirmed invalid. These symptoms were complicated a year ago by pain in passing the motions, which were infrequent and confined. She had not been seized by retention of urine previous to March last. In February last she was, with "questionable propriety," advised to come to Leeds to stay with some friends for the good of her health.

On examination I found the orifice of the urethra to be completely surrounded by warty growths of a considerable size, and on examining the rectum the introduction of the finger was impeded by a very tight sphincter ani. The rectum was baggy, and there was a small external pile. The uterus was in its natural position, and the catamenia were, and had always been, regular, and the urine was natural. Not being able to estimate to what extent the retention was due to the warty growths, and seeing she was suffering considerably from rectal difficulties, I deemed it advisable to negative the possibility of the retention being caused by the warty growths by removing them, and whilst the patient

* Atlas, p. 149, note.

† Gottardi, *Giornale de Med. MU.*, Ju'y 1875, p. 22.

* Read before the Leeds and West Riding Medico-Chirurgical Society, Oct. 1st, 1875.

† Vide THE LANCET of Nov. 27th, 1875.

was under the influence of an anæsthetic stretching the sphincter ani with the forefingers introduced back to back sufficiently forcibly to paralyse it for a time and allow the sore produced by the snipping off of the pile to heal; in the same way as one would cure a fissure of the anus, by setting the spasm of the sphincter ani at rest, which, constantly contracting, might possibly be an element, through reflex action, in helping to keep up the vesical irritability.

Accordingly, on March 5th, chloroform having been administered, I completely carried out the above suggestions. The result of this was, that during the next few weeks relief was given to the retention of urine and to the pain in passing the motions; but there was no relief at all from the vesical irritability. Her general condition, with these exceptions, continued as before, and there was a return of the retention of urine at the end of three weeks from the operation.

I had clearly told her a second operation would possibly be necessary should the first fail to give relief, and accordingly, on April 11th, I again placed her under the influence of chloroform, and introducing Weiss's female dilator into the urethra to the extent of about two inches, I then slowly separated the blades of the dilator, stretching the urethra so as to admit of the introduction of my forefingers within the bladder while the parts were on the stretch. On closing the blades and withdrawing the instrument, the urethra contracted upon my little finger, so as sensibly to grip it when introduced into the bladder, the coats of which were thickened. There was no foreign body or stone to be detected.

She was very much upset by the chloroform-sickness, which continued more or less all night; there was, however, *no more irritability of the bladder, no retention, no incontinence produced*, and, to use her own words, "I have not passed water so freely for years"; nor had she retained it so long without being disturbed, for the first time she made water in the evening after the operation, and she was not disturbed during the whole night.

April 14th.—She slept the night through, and awoke with little or no headache, retaining and passing her water quite naturally with the exception of some soreness.

16th.—She complains of slight pain while passing water, but perfect facility.

19th.—She got up in the evening complaining of none of her former symptoms, having lost completely all trace of vesical irritability in eight days from the dilatation of the urethra.

Her progress now continued to be satisfactory and very rapid.

May 4th.—She reports her old symptoms to have all disappeared. She sleeps and eats well, and takes a fair amount of exercise.

At this stage I ordered her into the country, where she resides, and returning on May 31st, she reported herself as perfectly well, and has gained three stones in weight. On the day previously she had walked a distance of eight miles without feeling more than ordinary fatigue, and remarked that before the operation "she could hardly trail herself about."

Thus, then, were the miserable and intractable sufferings of years, shutting out this poor woman alike from society and employment, put an end to at once by an operation whose best recommendation is its simplicity and its success.

Leeds.

CASE OF HIGH TEMPERATURE IN RHEUMATIC FEVER TREATED WITH THE WET PACK.

By T. CARLETON RAILTON, M.B. LOND., F.R.C.S. ENG.

ELLEN G.—, aged twenty, a housemaid, after having complained for two days of not feeling very well, and of pain in her right wrist, was sent to bed on June 25th, 1874, with all the symptoms of rheumatic fever. The pulse was 100, full and soft; both wrists were painful, and slightly swollen, and there was a copious perspiration, having the usual sour odour. The only treatment adopted at this stage was an opiate mixture to relieve the pain, together with the wrapping up of the affected joints in cotton wadding.

On June 26th the pain in the wrists had become more severe, and was accompanied by pain in one knee and in the back. The temperature taken at 10 A.M., in the axilla, was 102° F. Upon auscultating the chest, a mitral regurgitant murmur, soft in character, was perceived; this was treated by the application of one of Rigollot's mustard leaves over the cardiac region, followed by a constant succession of hot linseed-meal poultices.

June 28th.—The pain in the joints, although diminished in the wrists, had become intensified elsewhere, both knees and one ankle being somewhat swollen. Since the 26th the mustard leaves had been reapplied to the chest as frequently as the patient could bear them.

29th.—On being raised up in bed the patient fainted. The pulse still remained 100, but was very soft and compressible. A freshly prepared infusion of digitalis was ordered, together with certain fixed quantities of nourishment and stimulants at frequent intervals.

30th.—The faintness still continued; other symptoms remained the same.

July 1st.—The same symptoms. Temperature at 7 P.M. 103°. At night she began to ramble in her speech. Cold water cloths were kept constantly applied to her head.

2nd.—Rambling continued. Ice to the head.

3rd.—The rambling had turned to loud delirium, the carotids beating fiercely. The temperature at 4.30 P.M. being found to reach 105.7°, the wet pack was resorted to for the first time. A sheet was soaked in iced water and wrung out; the patient was then enveloped in it from head to foot for the space of half an hour, at the end of which period the thermometer showed an abatement of the temperature to 104°, and so far from appearing exhausted by the process the patient appeared considerably improved; the pulse, though still 100, being firmer, while the violent excitement had given way to a comparatively sound sleep. At 11 o'clock the same evening these good effects had passed off, but the temperature still continued at 104°. The wet pack was applied for the second time in the same way as before, with the result of a descent in temperature to 102° and a tolerably quiet night.

4th.—At 10 A.M. the temperature had again risen to 104.5°, and the patient still continued to ramble. After another half hour in the wet pack, the temperature went down to 101.8°; pulse 100; respiration 28. At 11 P.M. I was hastily sent for. The woman appeared to be sinking and almost unconscious; the pulse was very rapid and weak; the temperature was 104.2°. So great was the bodily prostration that I feared to have her lifted from the bed to the couch upon which the wet sheet had been spread, therefore, as an alternative plan, a large bath towel wrung out of iced water was tucked around her as far as possible without disturbing her. Stimulants and beef-tea were constantly administered. At the end of five minutes the towel was changed for a freshly-iced one, and in five minutes more a third was applied, the whole process thus occupying the space of a quarter of an hour, with the result of a descent in temperature to 103.4°, and a pulse much firmer and slower.

5th.—At 2 A.M. the bath towels were again applied as before to the front of the body, reducing the temperature to 102°. At 4 A.M. the process was repeated, but without observation as to the temperature. The patient was afterwards sponged over slowly with iced water from head to foot at intervals of an hour until 11 A.M., and by this means the temperature was maintained at 102°. The pulse (102) at this time was very much firmer, and the patient appeared calmer and more collected than she had been during the previous five days. The ice to the head was discontinued. The sponging was renewed for a quarter of an hour at 7 P.M., and also at 11.45 P.M., at which time the temperature was found to be 101.4°.

6th.—At 9 A.M. the patient, though still suffering considerable pain in some of her joints, was perfectly composed, and the marked depression from which she had previously suffered had passed off. Her pulse was 92; the temperature 100.4°.

Since the last date she gradually but slowly returned to comparative health, with but one slight relapse of the affection of the joints, unaccompanied by any great increase of temperature. The period of convalescence was naturally prolonged by the existence of the valvular disease of the heart, and by a very severe bed sore, but at the present