strument is withdrawn with the sheath pressing back towards the rectum. It seems to me that no lithotomy could be more simply contrived or formulated than this: open the membranous urethra on a grooved staff; put a strong simple concealed bistoury into the bladder; project the blade upwards and draw out the bistoury; put the finger into the bladder, feel the stone, and extract as usual. Much may be done with this bistoury. It may be used as a sound; it may incise the prostatic urethra

to any desired extent. After the incision (or before, if the urethra be large enough), the sheathed bistoury flatwise is an excellent guide for the finger to the bladder. All these advantages I experienced in the case of this little boy—my fourth case.

Whether the straight bistoury on the finger, or the concealed bistoury, be used, the instrument should be so held that the upward incision is confined to the prostatic urethra. The floor of the membranous urethra is already divided; its roof need not be cut.

I have found less than usual hæmorrhage by this method; but, if it be at all free, say in adults, the application of a long sponge-tent for an hour or two effectually checks it. The tent may be withdrawn at will, without removing the tube.

I have been asked if there is no danger of urinary infiltration. Urinary infiltration is not a feature of the suprapubic operation, in which there is no downward drain, as there is here. I have had five suprapubic operations: three in little girls, one in a boy with traumatic stricture; all these recovered. One, a man with fatty viscera and with a stone that could not be removed through the perinæum, died. In no case was there urinary infiltration. Here, in fact, the urine drains away from and under the deep cut, not over and into it, as in the lateral method. The upward incision in women, whatever other drawbacks it may have, is not attended with urinary infiltration.

The advantages of the operation seem to me obvious and numerous. The floor of the pathway to the bladder is uninjured, and underneath this floor lie the main dangers. The route to the bladder is more direct, less angular; and its diameter is more uniform. The operation is simple in principle, more definite in detail, more easily performed. In the lateral method, the far end of the deep cut is necessarily an uncertain point. If the knife stop short of the end of the staff, there is uncertainty; the position of the end of the staff itself is a variable one. The floor of the bladder is practically on a level with its neck, and therefore the vesical end of the deep incision is inevitably an unfixed and an unfixable spot. The front of the bladder, on the contrary, is at a sharp angle to the prostatic urethra, and furnishes a natural, definite, and measurable limit, to the vesical cut—a cut which begins at the angle and comes forward. The incision may be made larger at will by definite and clear steps. Where the prostate is enlarged, it is a great gain not to leave large cut surfaces in its substance—surfaces which heal slowly or not at all. It is possible that an upward cicatrix might give unexpected relief in some cases of prostatic difficulty.

I have told you of my first case of several years ago. The next case was in a man near sixty, with enlarged prostate, but spare and temperate. Three years before, I had cut him by the lateral method, and removed a large stone. On the second occasion, I operated by the method I have described—treating the neck of the bladder somewhat

after the fashion of the neck of the sac in strangulated hernia, and notching it upwards on the end of the finger. Three calculi, each averaging an inch and a half in diameter, were removed with great ease. The forceps was gently held along the whole tract, and not more at one spot than at another, a new experience to me. A long sponge-tent remained by the side of a tube for a few hours. His recovery was complete and rapid. The third case, which ended unfavourably, was that of a man aged sixty and extremely fat. He stoutly alleged that he lived a temperate life—falsely, as it was afterwards shown. The bladder was the deepest I have met with. Five calculi, all exceeding an inch in diameter, were removed. To my great regret, I found that the too zealous curiosity of some friends who were present had led them to insinuate their fingers upwards between the bladder and the pubes. This reminds me of the one great precaution to be taken: let there be no manipulation or examination in an upward direction. No purpose can be served thereby. After death on the third day, the heart and liver were found to be unusually fat. There was a limited patch of urinary infiltration above the pubes; it was not near the peritoneum, and there was no peritonitis. Probably it had nothing to do with the result.

My last case was in this little fellow eighteen months old. I opened the membranous urethra on a grooved staff, and then carried, without a hitch, a concealed bistoury into the bladder along the staff, but with no anxiety to keep in the groove. An instrument that passes readily in the direction of the bladder cannot go anywhere except into the bladder. Without caring to do so, I felt the stone with the end of the instrument. Turning the blade upwards and projecting it, I incised the neck of the bladder upwards. Keeping the closed instrument on the floor of the entrance to the bladder, my finger passed over it into the bladder with great facility. The forceps, introduced over the finger, seized and brought away two calculi in close contact with each other, and weighing together 185 grains. I never saw so little hæmorrhage. He passed all his urine by the natural channel on the seventh day. He is now in perfect health.

[Since the above left my hands, I have had a fifth case in a boy of five. He left the hospital well in a fortnight.]

CLINICAL LECTURE

ON SOME

VARIETIES OF NERVOUS HEADACHE.

Delivered at the Samaritan Hospital.

BY WILLIAM HENRY DAY, M.D.,
Physician to the Hospital.

In a previous lecture (BRITISH MEDICAL JOURNAL, November 16th, 1878), I somewhat hurriedly carried you over a wide field of inquiry concerning the nature and causes of headaches. I spoke of anæmia and hyperæmia of the brain as factors in the production of these morbid states; and I incidentally passed in review the remedies in which experience has most justified our confidence. I said I would consider the subject at a future time with fuller detail, and to-day I will try to redeem my promise by making some remarks on *nervous headache*.

Our views regarding the pathology of nervous headache are vague and indefinite. Ask the question of those who have carefully studied the subject, and you will seldom get a satisfactory definition. It is neither precise nor scientific. It does not meet the cases that are constantly before us. A really nervous headache is one that starts *ab initio* in the brain; the sensory tract of the encephalon becomes irritated and over-excited, and pain results. A rheumatic headache, the congestive headache of acute inflammatory affections, or of organic disease, the typical neuralgic headache affecting one side of the cranium, or the headache due to syphilis, are easy of diagnosis, and we can scarcely confound them with any other forms. But there are headaches classified as nervous which do not correctly belong to this category. They originate in various sources of irritation not primarily cerebral, and quickly cease, as a rule, on removal of the exciting cause.

The ordinary meal, which would be digested in a healthy state of the system, indirectly creates disturbance in the brain and invites the evil; though at another time it would fail to provoke it, if the general condition were stronger, and more tolerant of indulgence or change of habit.

And here, by way of introduction to the subject before us, I would fain impress this somewhat melancholy fact upon your attention: that the habitual sufferer from headache scarcely secures common sympathy from his or her friends; its frequency is so universal throughout the world that it passes as of little moment or concern, because, generally

speaking, if of functional origin it is transitory in its duration, the patient is none the worse for the seizure, it wards off some other, and, it may be, more formidable affection; and, as the phrase goes, it is unattended with danger, and does not shorten life. Nevertheless, it necessitates care and abstinence in living, and, while it lasts, produces very serious personal discomfort and distress.

But if the man of business, who is subject to periodic nervous headache, could relate what his agony was when compelled to be amid the din and bustle of life; if the professional man, who happens to be a sufferer in the like way, described how many days in the year he was obliged to relinquish his work entirely, and so sacrifice both time and money; if the hard-working needle-woman or dressmaker, who is perhaps the victim of some constitutional disorder which robs the brain of its due supply of arterial blood, told her sad tale of woe, and we could at all realise the agony and distress they severally endure, many who reject the idea that headaches scarcely necessitate special attention, would be convinced that they were worthy of a more serious study; and especially so when they come to understand that some of the most inveterate forms succumb to judicious management, even if they cannot in many instances be altogether averted. Subtle in operation as the mysterious forces of life may be to originate the different types of nervous headache, and I hold that their manifestations are various, there are means of alleviation in most cases, if we could discover them.

A somewhat extensive experience in dealing with functional forms of headache has satisfied me that they often yield easily enough (as I shall afterwards show) to well-directed treatment, when empiricism in every grotesque shape has encountered signal failure.

There are few treatises extant which describe the varieties of headache as they are to be met with in different persons. All headaches are comprised under the comprehensive term nervous or sick headache, and the description of *one* is made to include the *whole*. What to my mind appears as a typical dyspeptic, or congestive headache, is, according to many, only the outcome of the nervous type—a variety of the so-called *magrim*. From these authorities I venture to differ. Some persons never get a headache unless their digestion is at fault—excess of alcohol or stimulating food being the usual cause. I know three instances of members of the same family whose brains are excessively quick in taking offence at the smell of paint. The brain is the *offended* organ; it is not in such a case the *offender*. The pain lasts just so long as the irritation and excitement which the alcohol, or the paint has caused, and no longer. A heavy meal, or dinner, taken just before going to bed, imposes on the digestive organs an amount of duty to perform which they cannot comfortably discharge, and with the morning comes a splitting headache; when perhaps, before retiring to rest, an alkaline draught or an aperient pill might have warded it off. But the mischief is done by the early morning, by which time the patient too often thinks that his remedy may easily be obtained.

There are four forms of nervous headache, the recognition of which is sufficient for all practical purposes: 1. The typical nervous headache, which we will consider to-day; 2. Neuralgic headache; 3. Occipital headache; 4. That form attended with a disturbance of vision; 5. There is another variety accompanied with disordered sensation of the upper and lower extremities; but, I think, this is not entitled to a separate classification, because it often accompanies neuralgic headache. In some cases, it appears to be a sequel to it, the headache, so to speak, makes its escape through the extremities. The first four forms are well-marked and easily to be discriminated from each other, though one person may suffer from the whole at different times, according to the state of his health and constitution. He may experience one variety to-day and another to-morrow. I shall cite one or two instances later on. Thus a gentleman suffered from sick headache periodically till he reached the age of thirty-seven, when great anxiety overtook him, and by day and by night he was continually harassed and distressed. Severe neuralgia of the left leg and thigh followed, compelling rest in bed, and requiring sedatives and large doses of quinine before he could obtain relief. From this time, the headache changed its character and became neuralgic.

1. The premonitory symptoms of a *typical nervous headache*, then, and the course it follows, are subject to variation in different persons. In some, there are disquietude, uneasiness, and irritability for days preceding the storm; an inability to remain placid and coherent, and a tendency to be easily alarmed and apprehensive. The brain is beginning to be disturbed, and mental criticism is carried on through a hazy medium; the verbal expression of passion gains an uncontrolled utterance, though any passion itself may be practically under control. If there have been a grievance, it is distorted and magnified a thousand times, and it cannot be forgotten. It is pondered over and over again, and will not depart. So frequent are these symptoms in some persons, that each recurrent attack is ushered in with this real or fancied sorrow, which

up to that time has been in abeyance. The patient cannot escape from it; it excites him, it worries him—he grieves over the inevitable, and can find no consolation in the seasonable advice of Othello:

"To mourn a mischief that is past and gone
Is the next way to draw a mischief on!"

This condition of the mind must, however, be looked upon as disease; and, until the brain recovers its healthy tone, reasoning is useless, the thoughts are wild, loose, and ungovernable.

"There was never yet philosopher
That could endure the headache patiently."

In other cases, torpor, listlessness, confusion of the mind, and loss of appetite herald the coming outbreak. The last meal has not agreed, and patients complain on waking up next morning that their mouth is dry and uncomfortable; that their rest has been disturbed by dreams; and that, if they wake up, they could not get to sleep again. If they attempt to walk across the room, their legs are unsteady, and there is an indefinable languor and depression about them. They dread the day that is before them, and know from former experience that, before many hours are past, they will be racked by something not very different from torture.

Delicate young women, at or near the time of menstruation, sometimes experience severe pain over the left side of the thorax and cardiac region, accompanied with thumping action of the heart—violent palpitation. At each stroke of the heart, the brain throbs and pulsates as in a severe bilious attack; the attack ending, as it often does, in violent retching and vomiting, pain across the eyes, and inability to face the light—this, too, when the general symptoms are those of anemia, and the patient is in feeble health.

Another very common cause of nervous headache is poring over papers, books, or manuscripts for hours together, whilst the mind is constantly kept in a state of strain and tension. There is not so much absolute *pain* as absolutely unendurable *discomfort*, the whole head seeming to throb together; while one becomes distressingly conscious of the contact between the brain and the skull. The bony framework seems lifted upwards by the pulsation from within. And this especially results from looking over a gallery of pictures, where the sight is taxed and the mind exerted till the colours at length seem almost to run together, and the observers find themselves at last incapable of deciding on the merits of the work they are examining. They feel that their brain is wearied, overtaxed, confused. It is probable that the varied colours which meet the eye tend to this confusion of ideas, just as passing through the streets, with a desire to leave nothing unnoticed, obscures the senses by so many objects pressing on our notice in rapid succession.

Now, there is a very curious fact with regard to these headaches—namely, perverted sensations. Some persons will complain of great heat of the head, when to another person the surface feels natural, or even colder than usual; while again, when it is said to feel cool, it may to the hand of another feel hot. These abnormal sensations are the physiological outcome of some alteration in the functions of digestion and assimilation, causing cerebral irritation.

Perhaps a sufficient quantity of food has not been taken, and so enough heat to warm the body is not produced. If the vessels convey a too scanty supply of blood through the body to generate heat, the proper chemical changes cannot ensue.

Nothing tends more to aggravate the pain of headache than the force of the circulating blood; indeed, the velocity with which it passes through the arteries, veins, and capillaries, in a given time, is a matter of great importance in the production of headache. Any resistance in the latter set of vessels increases the fulness of the arterial system. The blood goes through all the straight vessels regularly, and with even speed; but, as it winds its course through the twisting ramifications of the brain, where there are so many crossings and branches, all the components of the blood may possibly not pass with the same rapidity, and the finest capillaries hinder or curve the red corpuscles, pressing them out of form; and so a way is prepared for congestion of the tissues in immediate relation to the vessels. "The resistance to the flow of blood, caused by the friction generated in so many minute passages, is one of the most important physical facts in the capillary circulation. In the large arteries, the friction is small; it increases as they divide, and receives a very great addition in the minute arteries and capillaries. It need perhaps hardly be said that this peripheral friction not only opposes the flow of blood through the capillaries themselves, but, working backwards along the whole arterial system, has to be met by the heart at each systole of the ventricle."

During some attacks of severe nervous headache, the pulse may be but little if at all affected, either in frequency or in force; the heart beats regularly and evenly as in health, and discharges at each ven-

tricular contraction the normal quantity of blood through the aortic orifice. It has often appeared strange to me that in these cases of severe suffering the heart should not be invariably affected through the agency of the nervous system, and the vaso-motor centre. In very many cases it is; and the pulse is slow and feeble, so slow that one might fancy syncope to be at hand. When the headache has continued for any length of time, whether there is uneasiness or oppression about the epigastrium or not, its rate is frequently reduced; that is, a pulse normally of 64 may not exceed 50 when the pain has recurred frequently from time to time. This is probably due to some action upon the inhibitory fibres of the vagus, but this we do know, that the cardiac plexus and the solar plexus of the sympathetic are brought into immediate relationship. This slow pulse, then, is by no means rare in delicate women, the common subjects of nervous headache—women who are overburdened with worry and anxiety of mind, or who are approaching the menopause, and are still much drained at each period. I know two cases in point; both are cases of married women who have had families, and are about the age of fifty. Both have suffered, and still suffer, a larger weight of care and anxiety than falls to the lot of most persons. One has ceased to menstruate, in the other the periods are regular, but too profuse. The pulse of these patients averages, in health, 64; but, when the seizure is on them, neither pulse exceeds 50, sometimes it is as low as 42 in one patient and 46 in the other. This slowness of pulse is probably due to irritation of the pneumogastric, although no diet is ever indulged in to slacken the action of the heart. It occurs among women if they ever drink tea to excess—a habit which decidedly has some influence on the pneumogastric. When, with this slowness of pulse, there is pain over the occiput (*occipital headache*), and upper cervical vertebrae, the medulla oblongata may be the source of irritation. The strain of continual suffering, like the shock of a sudden and heartrending calamity, has an effect in creating this disturbance, and partially paralysing the activity of the nerve. The nerve-centres are stunned, or profoundly shaken for the time being; and both the respiration and circulation partially fail from the changes which have taken place in the vessels and structures regulating these functions.

As to hereditary influences, these are fertile causes of an aching brain—of the type called nervous headache; and, I believe, if family history were traced far enough back, we should be able to discover the reason of many persons so suffering when they can in no way account for their trouble themselves. A headache of hereditary origin at the middle period of life, which has continued from early childhood, is usually very obstinate, and may necessitate such a change in the mode of life, as to render it well nigh impossible to give relief. Thus, a lawyer's clerk, thirty-six years of age, had suffered from maddening headaches from the period of five years old, and at the time he saw me, his calling compelled him to continue an in-door life; the mode and habit of life may be just enough to provoke headache in a person, who, living under different circumstances, might have escaped all his life. Country life shields them; town life brings on the torture, as a rule.

In many instances there is cause enough for this form of headache. Among women (who are marked out as special victims of headache) menorrhagia occupies the first place; and this is more especially the case when headaches have prevailed in early life, and the brain has shown evidence of its susceptibility to this functional disorder as maturity is approached. Bear in mind, however, that some women are drained of blood from uterine hæmorrhage till they are completely blanched, and yet they never experience a headache; just as some nervous people, gouty or otherwise, habitually indulge in alcohol till their internal organs are damaged, and yet never have an aching brain. Severe leucorrhœa is another cause.

It will be well, however, to describe more fully a case of headache arising from menorrhagia. The patient is perhaps the subject of a retroverted or relaxed uterus. She has a large roomy pelvis, and has suffered from excess of the catamenia nearly all her life. Hæmorrhoids and varicose veins of the lower extremities are also of common occurrence in these cases. As the patient approaches the climacteric period, the drain becomes more frequent and profuse, leaving her more and more blanched and unable to get through her duties; for many of these subjects are poor women compelled to remain at a wash-tub, or to labour hard in some other way for the support of a young family, and perhaps a sick or indolent husband. The symptoms that accompany this state are just those we might expect to follow a continual drain of blood. There is great pallor of the face and conjunctiva, the gums are bloodless, and the tongue is large, pale, and flabby.

The mental symptoms are sometimes so severe that the patient is apt to become irascible and violent, a state varying from simple irritability to an entire absence of self-control; she runs the risk of being dangerous to herself and to those about her. When this vio-

lence has passed away, and her reason again returns, she is afraid to trust herself with her children, for fear of doing them some bodily injury.

When the uterine loss is excessive, there is felt, in some of these cases, a knocking like a hammer on both sides of the head, through the centre of the parietal bones, due to vibration of the internal carotid arteries on the petrous portions of the temporal in which are placed the auditory apparatus. It does not attack the anterior or posterior lobes of the brain, and those parts are quite easy. The noise is worst at night, and the patient is unable to obtain rest. Sometimes the hammering noise is on one side of the head; and in one case it was felt as though a nail was being driven into the head. The least excitement would bring it on at any time, followed, after an uncertain interval, by great flushing of the features; the patient feels as though the blood had quitted the head, and gone to the face; and it is well to state here that this flushing and headache depend upon some peculiar neural condition, so does the menorrhagia also in many cases, and only yields to that treatment which aims at restoring the lost tone of the nervous system.

Ovarian irritation is unquestionably a not uncommon cause of nervous headache, particularly in women who have early ceased to menstruate, and who lead indolent and purposeless lives. The pain may one day fix on the forehead or side of the head, on the vertex or occiput; another day the head is easy, and a similar pain attacks the sacral or lumbar regions. There is a dragging weight felt in the pelvis and groins; the thighs on the inner side ache from irritation of the genito-crural nerves; and the legs are weak and tremulous. Such patients cannot walk any distance without an increase of pain and fatigue; they return home to lie down, and having no appetite, often fly to a stimulant which ultimately makes them worse. We have good reason to suppose that the abdominal and pelvic viscera are in close relation with the occipital lobes of the cerebral hemispheres; a misplaced uterus or an accumulation of scybala have been known to produce mental depression and even melancholia; promptly relieved by attention to the exciting cause. The irritation set up in the morbid ovary or ovaries by the act of walking, also, it would seem, may excite this condition of mental depression. Palpitation and uneasy sensations in the cardiac region are complained of, and the pulse may be irregular and intermittent for days together; sleep is disturbed by miserable dreams, and the patient wakes in the morning unrefreshed and unwilling to leave her bed. She will often complain of great suffering over one or other ovary, extending through to the lower lumbar and sacral regions. The discomfort which these patients experience can scarcely be imagined; the face has no ray of cheerfulness, the eyes are heavy, and the areolæ are extremely dark. The world is a complete blank to such persons, and has dealt unusually hard with them. If this circumstance had not happened, and this person had not insisted on that, and this climate was not so changeable; then life would have been endurable. The world ought to mould itself to their wishes and caprice, "now grave, now gay, now lively, now severe". As they ponder over their misfortunes, they become unreasonable and almost uncontrollable; emotional excitement, fits of ill-humour culminating in passionate outbreaks of anger, are common enough; followed now and then by an outburst of hysterical sobbing, which brings temporary relief; and then enough reason returns for a time to induce them to believe their lot in life has some light in it after all. In such patients, loss of appetite, nausea, and not rarely vomiting, are found; not the outcome of primary gastric dyspepsia, so much as reflex disturbance from ovarian irritation.

This leads us to the subject of headache from visceral disturbances, which will occupy our attention at a subsequent lecture.

BARNESLEY.—A considerable increase over the figures for 1877 is noticeable in Dr. Sadler's report for 1878, the death-rate for the latter year being equal to 23.28 per 1,000, or 2.55 above that for 1877. Of the 679 deaths, 243, or 34 per cent. of the whole, were those of infants, and 351, or 49 per cent., were of children under five years of age—a proportion which, we are astonished to learn, is less than the average for the last ten years. Zymotic diseases caused 126 deaths, or 56 more than in 1877. Scarlatina, whooping-cough, typhoid fever, and diarrhoea were the most fatal of these diseases. It is satisfactory to find that the old maddens are being rapidly replaced by a new form of "ashpit", the simplicity and effectiveness of which are described as at least equal to anything of the kind that Dr. Sadler has yet seen or heard of. But, in order to secure the full benefit from this change, regular and systematic inspection and more frequent removal of the excreta are essential, and should receive early attention. Some large sewerage works are now in progress, which will further improve the sanitary condition of the town.