

much more, I believe, may be accomplished by a daily *breather*, supplemented by an annual ramble, when whole days are spent in a pure open air. If I were bold enough to be a prophet, I should point to a period when the elder folk, instead of waiting till they have had a stroke of apoplexy or a touch of paralysis, or are laid up with arterio-capillary fibrosis or morbus Brightii, and then hurriedly summoning a physician to do impossibilities, will seek his advice betimes, asking him to supervise their vital functions, regulate their mode of life, and teach them to stay the morbid changes which they know may be silently progressing. For the due estimation of these the sphygmograph, in skilled hands, as those of Galabin or Mahomed, is, I think, indispensable.

Green-street, W.

TWO CASES OF AORTIC ANEURISM, WITH INCREASED SECRETION OF URINE.

By CHAS. H. RALFE, M.D. CANTAB.,  
PHYSICIAN TO THE SEAMEN'S HOSPITAL ("DREADNOUGHT").

SINCE Bernard observed that an increased flow of urine, free from sugar, follows puncture of the floor of the fourth ventricle at a spot slightly higher than where the "diabetic puncture" is practised, cases have been recorded pathologically illustrating the experimental fact. An increased flow of urine also follows the experimental irritation, in animals, of the pneumogastric nerve; and in the two cases I now relate it seems highly probable that the increased secretion of urine may be accounted for by the irritation caused by the pressure on the left pneumogastric nerve by an aneurismal swelling of the transverse aorta.

CASE 1.—Joshua W—, aged forty-seven, a sailor, was admitted into the Seamen's Hospital, under my care, on the 5th of August, 1875. He states that for nearly four years he has been suffering occasionally from severe paroxysmal pain over the cardiac region. During the last few months, however, the attacks have become more severe and frequent, so that in his last voyage from New York he was quite incapacitated from duty. On arriving in England in May he came at once to the Seamen's Hospital; but, leaving shortly afterwards, he went to Guy's Hospital, where he was under treatment two months. After his discharge from that hospital in July he went down to Somersetshire; but, the pain still continuing, he came back to town, and was readmitted into the Seamen's Hospital on the 5th of August. The following note was taken shortly after his readmission. He is a tall, well-built man, looking rather old for his age, but otherwise healthy in appearance. Had syphilis when he was seventeen years of age. He complains of attacks of intense agonising pain, seizing him suddenly and frequently, occurring over the cardiac region. The pain is of a peculiar sickening character, and makes him feel faint. No aching or gnawing pain between the paroxysms. No bruit can be heard over the cardiac region; there is slight impulse over the base, and pulsation is marked above the left clavicle and in the inter clavicular notch. The left radial pulse is small and weaker than the right.

After he had been in the hospital a few weeks he requested to have an extra allowance of milk, as he felt thirsty. Inquiry was made with respect to the quantity of urine passed daily, and the patient stated that since he suffered from the pain in the chest he has passed much larger quantities of urine than formerly; he is positive that the pain in the chest, and the increased flow of urine, appeared about the same time. Directions were given to have the urine measured, and it was then found the first week this was done that the daily average was 116 oz., the maximum quantity being 160 oz., the minimum 106 oz.; weight of patient, 157 lb., or 11½ stone. Since September the urine has been measured daily, and the quantity passed, except on three consecutive days in September, has always been considerably above the normal, the average for the last two months, December and January, being respectively 109 and 99 oz. The specific gravity has ranged from 1009 to 1013, corresponding closely with the quantity of urine passed. No sugar or albumen has been observed at any time. Dr.

Law, the house-physician, has kindly attended to the daily measurement of the urine, and on several occasions made quantitative estimation of the urea and phosphoric acid. These have never been found in anything like excessive quantities. The following gives the amounts of urea and phosphoric acid respectively, contained in the twenty-four hours' urine, on the different occasions they have been estimated:—

Urea.	Phosphoric Acid.
45.9 grammes.	2.4 grammes.
33.7 „	2.3 „
41.2 „	2.3 „
32.4 „	„

Feb. 5th.—The aneurismal swelling has increased but slowly in size; the pulsation above the left clavicle, however, is stronger, and there is a decided prominence over the upper part of the sternum on the left side, and the left radial pulse is now nearly obliterated. He has, however, quite lost the anginal pain. There is slight hoarseness of voice, and the left side of the face is swollen and oedematous.

CASE 2.—W. H—, aged fifty-six, a sailor, admitted into the Seamen's Hospital, January 26th, suffering from aortic aneurism. There is pulsation felt above left clavicle, and in the inter-clavicular space; aortic second sound accentuated over pulsating area and vessels of the neck; left radial pulse nearly obliterated; some difficulty in swallowing. Weight of patient 128 lb., or 8½ stone. The urine collected for twenty-four hours and measured has given, since he has been in hospital, a daily average of 73 oz. The patient does not complain of thirst, nor till his attention was called to it was aware that he was passing an undue quantity of urine. The following note, made by Dr. Law, the house-physician, gives the proportion of water, solids, urea, and phosphoric acid for one of these days:—February 15th: Quantity of urine passed, 2400 c.c. (about 83 oz.); specific gravity, 1014; urea, 30 grammes; phosphoric acid, 1.6 gramme.

Both cases are still under treatment at the hospital. Although we have not been able to verify, by post-mortem examination, our supposition that the increased secretion of urine in both cases is due to irritation of the left pneumogastric nerve from the pressure of the aneurismal swelling, still there are many points which make that supposition highly probable. It may be suggested that the polyuria in both cases might be due to some other cause, still it would be a somewhat remarkable coincidence that each should be suffering from aneurism in exactly the same locality. Then there is the fact that experimental irritation of the vagus in animals produces polyuria, and in both these cases we find the aneurism situated in that portion of the transverse aorta which is crossed anteriorly by the left pneumogastric. And, lastly, in Case 1 there is an evident connexion in point of time, observed by the patient himself, with respect to the pain in the chest and the increase in the flow of urine. In both cases it would, however, have been easy to overlook this symptom, for though the increased secretion of urine in both cases is marked (making allowance for the difference of weight in the two patients, it is just double in each case what is passed under normal conditions), still it was not sufficiently urgent for either of the patients to call our attention to it. In Case 1 the patient had been in the hospital some weeks before we were aware of the fact, and had the application for more milk been granted without inquiring the reason for the demand, it is probable we should never have suspected it. In the second case we were on the look out, but the patient was quite ignorant that he was passing more urine than usual. It is, therefore, not improbable that future observation may prove that aneurisms in this part of the aorta, from their proximity to the left vagus, do cause from the irritation they produce an increase in the urinary flow.

I am not aware of any exactly similar case, but in 1863 Professor Haughton published in the *Dublin Quarterly Journal* one which seems analogous. This case has been aptly cited by Dr. Dickinson\* as proving that hydruria may take its rise in irritation or compression, by means of an abdominal tumour, of nerves leading to the kidney. It was the case of a woman who died with characteristic symptoms

\* Dickinson's Diseases of the Kidney and Urinary Derangements, part i., Diabetes, p. 190. London, 1875.

of diabetes insipidus, together with constipation and abdominal swelling, all of which had been noticed some years; it was supposed that the dilated colon pressed injuriously on the abdominal nerves, and thus set up the hydruria.

Queen Anne-street.

## ON THE LOCAL USE OF COLD IN ABDOMINAL INFLAMMATIONS.\*

BY PETER EADE, M.D. LOND., F.R.C.P.,  
PHYSICIAN TO THE NORFOLK AND NORWICH HOSPITAL.

THERE are few acute diseases with which we have to deal that cause us more anxiety during their continuance than the inflammatory affections of the abdomen. Though by no means common, they are frequently acute, and sudden in their onset; and their course, whether for weal or woe, is often short, sharp, and decisive. It is with this class of abdominal affections exclusively that I wish now to deal, and the few observations I desire to make will have reference only to these. They comprise peritonitis, enteritis, and the congestive inflammatory condition which follows upon obstruction of the bowels, especially under the use of purgatives. Of the milder forms of peritonitis, such as the strumous and the tubercular, or the adhesive form, which is generally local and is due to the neighbourhood of some diseased viscus, I shall not now speak. I have no experience to bring before you of the local use of cold in their treatment, and therefore, although it may occasionally be useful in such conditions, my present observations do not apply to these.

The title of this paper is, "The Local use of Cold in Abdominal Inflammations"; and I venture to bring the subject before you in connexion with some cases in which I have recently made use of this agent, with a very considerable amount of benefit to the respective patients. Of course I am well aware that such a use of cold is not only not new, but has been recommended with a varying degree of emphasis by various writers. But whatever the recommendations of our text-books, this I do say, that a consulting experience of now many years tells me that the almost universal practice of this district in the case of peritonitis or enteritis is to apply warm rather than cold applications to the abdomen; and that if I am called to see a case of either of these diseases, it almost (if not quite) never happens that the influence of cold locally to the abdomen has been brought into practical requisition.

I wish it to be distinctly understood that I am not now advocating the substitution of cold for warm applications to the abdomen in every case of inflammation,—I have not sufficient data to go upon to justify this; but I do desire to call, or perhaps I ought to say recall, the attention of this Society to the practical value, at least in some cases, of such practice; and the cases which I now briefly relate to you from my clinical experience will, I trust, suffice to induce a trial by you of this rather neglected agent in apparently suitable circumstances.

Before doing so, I will, as shortly as possible, place before you the present views of authors as to the proper treatment of these inflammatory abdominal affections; and, to save time, will only quote from three or four of those most commonly accepted as the guides of the profession at the present time.

To begin with Sir Thomas Watson, whose well-weighed words always command attention and deference. Speaking of simple acute peritonitis, he says the great remedies are rest, bloodletting, and opium. He adds: "After the leeches have fallen off, a light poultice may be laid over the abdomen; or it may be assiduously fomented with flannels wrung out of hot water,..... and these are generally found to afford great comfort to the feelings of the patient. Cold applications have been recommended by some practitioners of high authority," as, for example, Dr. Sutton and Dr. Abercrombie; but he goes on to say, "I should think this

a more precarious plan than the opposite, and I have always observed so much relief to be given by warm epithems that I have never had the inclination nor the courage to employ cold." Of inflammation of the bowels he says that it requires very much the same kind of treatment as peritonitis.

Dr. Wardell, writing in Dr. Russell Reynolds's "System of Medicine," article Peritonitis, after quoting Sutton, Abercrombie, and Smoler of Prague, as having recommended cold compresses to the abdomen, and even injections of iced water, says: "Not having any personal experience of cold appliances, I shall not do more than mention a remedy to the success or otherwise of which I can bear no testimony. It would, to myself at least, seem of doubtful utility in many cases, and one involving great risk in others; and I prefer what I believe to be equally efficacious, and certainly safer—namely, warm fomentations."

Dr. Bristowe (art. Enteritis, "Reynolds's System") also recommends, after the application of leeches, "warm but light applications to the surface of the belly," which, he says, "generally soothe, even if they produce no further beneficial effect." And of the vomiting which ensues when the stomach and bowels become greatly distended, he says, if to this "over-distension there is no other channel of relief, medicine ceases to have any power over it."

Dr. Tanner advises for peritonitis "sedative fomentations to be properly and assiduously applied," either alone, or the abdomen having been previously covered with extracts of poppy and belladonna. He does not allude to the use of cold in the treatment either of peritonitis or enteritis.

Dr. Aitken says, leech, give opium, and apply warm fomentations, in peritonitis; and he recommends pretty much the same treatment in enteritis.

Dr. Copland says, if cold is applied to the abdomen at all, it should be in the early stage and in the acute form of peritonitis; but he prefers the external use of turpentine, and of fomentations.

Niemeyer speaks favourably of local bloodletting in peritonitis, and then says: "The employment of cold acts in the same way, and perhaps it has even more effect on the inflammation itself. If the patient can bear it—which, unfortunately, is not always the case,—we may cover the entire abdomen with cold compresses, and renew them every ten minutes." And lastly,

Dr. Flint, of New York, says: "Warm fomentations to the abdomen, if grateful to the patient, are useful..... Cold applications are recommended, after trial, by Grisolle and Alison. I cannot speak of their utility from observation, but I should be willing to trust to the feelings of the patient in deciding between warm or cold applications."

From these quotations it will be seen that though the local use of cold is mentioned by the majority of modern authors, yet that, practically, it has been ignored or rejected by them in favour of warm fomentations or poultices. That these latter often fail to give any marked or sufficient relief must be in the experience of all of us. That the use of cold instead of warmth, locally, will sometimes give marked relief, the following cases, which have all occurred to me within the last two years, will, I think, show.

CASE 1.—Mr. A—, suffering from enteritis of four days' duration, apparently due to an excessive meal of white sprats. The symptoms were abdominal pain and commencing distension, frequent sickness, and high pulse and temperature. Ice in bladders was ordered to be applied to the abdomen as was found agreeable. Perfect rest of body was strongly enjoined, abstinence from much nutriment recommended, and the opium pills he was taking advised to be continued. He at once experienced relief; of his own accord reapplied the ice-bladders from time to time; in two days was greatly relieved; and from that time convalesced.

CASE 2.—Mrs. B—, suffering from severe and acute peritonitis of four days' standing, attributed to cold. She had been freely leeches, with relief to the pain; but the abdomen was much distended, the sickness was urgent, she was thirsty and much flushed, the pulse was 130, and the temperature 102°. Here, again, the ice-bags were freely applied to the abdomen, whilst opium was continued at short intervals. She liked the effect of the cold so well that she voluntarily continued its use; and soon her symptoms began to improve, and she eventually got quite well.

CASE 3.—Miss C—, suffering from acute abdominal congestion due to obstruction of the bowels of many days'

\* Paper read before the Norwich Medico-Chirurgical Society.