

OBSERVATIONS
ON THE
MEDITERRANEAN FEVER,

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LATE PHYSICIAN TO HIS MAJESTY'S FLEET IN THE MEDITERRANEAN, AND
NOW RESIDENT PHYSICIAN AT PORTSMOUTH.

COMMUNICATED BY

DR. STANGER.

Read March 28, 1815.

THE late successive and devastating attacks of fever on the shores of the Mediterranean have already employed the pens of many physicians in both the army and navy, whose abilities command the greatest respect for all their productions. We have, however, still to lament the existence of discordancy among these gentlemen, both as to the occasional cause of the disease, and the most eligible means to be adopted for its cure. With regard to the latter, as far as I am enabled to affirm from my own opportunities of observation, corroborated by the still more extensive experience of others, I have but little hesitation in inculcating the unequivocal superiority of *depletion*.

My public duties upon former occasions, as well as upon that which gave birth to the present communication, afforded me many opportunities of witnessing the Mediterranean Fever. They have served to remove scepticism. They have shaken the prejudices of education, and have taught me, if not to disdain, at least, on some occasions, to disregard the doctrines of the schools.

It does not much matter whether we look upon fever as an idiopathic, or symptomatic disease; whether we regard it as occasioning topical congestions and inflammations, or these as giving rise to fever. Our opinions on these points may indeed derange our nosology, but, fortunately for our patient, they cannot materially affect our practice. They may tend to throw us off our guard with respect to infection; but the grand outline of our treatment must remain the same. Neither shall we insist upon giving exclusive credit to the brain, the liver, the stomach, or any other viscus, either for bearing the brunt in all the patient's sufferings, or for disseminating so much mischief to the machine at large. For I believe the fact to be undeniable, that all these viscera have been found, at different times, to be individually, and sometimes collectively affected, in the very same fever.

The names of Boyle and Irvine, I believe, stand foremost in establishing the decisive superiority of the treatment of the Mediterranean Fever, by de-

pletion. They have since had many successful followers; and Dr. Irvine's little work has made numerous proselytes. My principal object in this paper is to shew that we may even go further than these gentlemen do, in inculcating their practice. At the same time I shall add some cursory observations of my own, dictated by actual occurrences, as they passed under my daily review, in my professional visitation of the sick at the Naval Hospital at Minorca, during the last three months of the existence of that establishment. This period is mentioned in consequence of the unparalleled influx of fever patients during that time, especially from among the English prisoners then returned from captivity at Marseilles. A detail of cases would not be interesting, even if room could be spared in the valuable pages of this Society, for their publication. I shall therefore give a general statement of the numbers which were under my care, in the form of a Table.

An Account of Patients admitted into the NAVAL HOSPITAL at PORT MAHON, between the 1st of April and the 8th of July, 1814.

Classes of People received.	Remaining in the Hospital with various Complaints on the 31st of March.	Received between 1st of April and 8th of July.		How disposed of.		Total discharged within the above period.	Convalescents remaining to be discharged into the Hospital Ship, July 8th, on breaking up the Hospital.
		Fever.	Other complaints.	Fever.	Other Complaints.		
Seamen and Marines } belonging to the Fleet. }	108						
Released English Pri- } soners from France. }		243		243		243	
Seamen and Marines } from the Fleet. }		261	73	354		346	8
Total	108	524	73	597	487	589	8

8 } Making altogether 597,
the number admitted.

The 108 found in the hospital on the 1st of April, consisted chiefly of pulmonary consumptions, wounds, and worn out seamen. Of the 524 fevers received during the three succeeding months, 29 died, which was about one in eighteen. The fever patients received from the fleet were almost exclusively from the ships employed in transporting the released English prisoners; with the exception of one frigate, whose men were visited with fever after being at Leghorn and Palermo, and who were doubtless exposed to the usual predisposing and exciting causes.

The history of the released English prisoners mentioned in the foregoing Table, may be thought somewhat interesting. Many of them had been in France from the beginning of the war. Some, in their eagerness to revisit their native country, contrived to get released from hospitals, with disease actually upon them; and others, before their strength was sufficiently recruited. But the majority had sustained great previous hardships, in being marched out of the way of the Allies in their rapid movements through France: sometimes 40 miles a day, badly fed, badly clothed, and often badly lodged. On the suspension of hostilities, they were sent to Marseilles (being the nearest port), to embark for England. They amounted to about a thousand, or eleven hundred in all; and had three ships of the line appointed for the purpose of transporting them to Minorca. The two

first of these ships that arrived, were not detained long at Marseilles, after embarking their proportion. The third was detained between two and three weeks receiving the stragglers, men, women, and children: many of them recently out of hospitals, weak, and emaciated. And so averse were they to complaining, even after they reached Mahon, (lest they should suffer, as they feared, a longer absence from their homes and families, by being sent to the hospital) that we were under the necessity of instituting a daily examination of them.

The documents before us are too limited to decide the question as to the contagious nature of the disease. They must, at least, however, be allowed to contribute essentially to establishing the contagious nature of the fever among the prisoners, which bore a close analogy in its character, symptoms and progress, to the common endemic of the Mediterranean.

Mr. Boyd, surgeon of the hospital, was seized with fever very early, and with difficulty escaped. The suspension of this gentleman's services was considered as a serious loss. He ascribed the attack to his having afforded his personal assistance towards the accommodation of a female who was delirious *. About this time the two hospital mates

* This wretched woman afterwards leaped from a window and fractured her spine. Her husband and two children (being all the family) were affected with fever at the same time: and one only (the oldest child) escaped death.

were also taken ill ; they had protracted convalescence, having suffered two relapses ; but they ultimately recovered. All these gentlemen had, early in the disease, great determination to the head, with retrograde action of the stomach. One of the mates had bilious vomiting with yellow suffusion, and exquisite pain in the epigastric region. They all kept perfect possession of their mental faculties through the whole course of the disease. One nurse only (a Mahonese) was seized with fever. She was between fifty and sixty years of age ; and was removed, at the request of her friends, from the hospital to Mahon, where she died.

The surgeon of the hospital and myself were among the number who reckoned upon the non-contagious nature of the fever. These occurrences, however, served to stagger our belief ; and a combination of subsequent events has conspired to make me a convert to the opposite side of the question.

Hospital mates were now procured from the ships in the harbour, and our daily receipts were so numerous that our little hospital soon became filled to the extent of its establishment. We were, therefore, obliged to prepare apartments hitherto unoccupied ; and Admiral Hallowell, then the senior officer of the port, with his wonted zeal and humanity, very soon afforded us the requisites for their equipment.

The three ships already mentioned as being em-

ployed on the service of transporting the released prisoners from Marseilles to Minorca, were, at the time, or soon afterwards, affected with fever; but particularly the last, which, as I have already observed, was so much longer detained after she began to embark them. Her only assistant surgeon was taken ill, and sent to the hospital; and the gentleman appointed to succeed him very soon afterwards caught the fever, and was sent there likewise. From this ship alone we received sixty-seven men, seamen and marines. And it must be observed, that the respective crews of these ships, were not exposed to any of the more common remote causes, to which sailors are so liable, viz. fatigue, intemperance, exposure to intense solar heat, succeeded by cold, &c. &c.

Those of the ship's companies seldom failed to complain on the occurrence of the first symptom of indisposition; and, as I had requested that they might be sent on shore, as soon after their becoming ill as possible, they were received at the hospital, in many instances before the termination of the chilliness and shivering which ushered in the fever. In these instances, venæsection was never had recourse to, till the vascular system had fairly emerged from the depressed state incident to that stage of the fever, and reaction had clearly manifested itself by the returning glow of the skin, the filling of the previously shrunk and dejected features, and the firm though frequently oppressed

beat of the pulse. Former experience not only taught me, that an earlier abstraction of blood was never borne to an extent productive of ultimate benefit; but on the contrary, seemed to be injurious, by tending to protract the first stage of the paroxysm. I am afraid that due regard has not been paid to this circumstance; and that, in the recent rage for phlebotomy, it has been too much overlooked. I am, indeed, induced to ascribe to this oversight, consequences replete with still more serious evils; for where persons have witnessed the loss of a few ounces of blood to be borne so badly, they have sometimes inferred, without looking to the real cause, that the disease was one of *debility*. The treatment was, of course, adapted to the diagnosis.

It remains to say something as to the manner of abstracting blood. The advantages of taking it from the temporal artery, have been emphatically dwelt upon; and in conformity with custom, and in obedience to the dictates of high authority, I have generally ordered it from the temporal artery, but without any conviction of the superiority of the practice. Indeed, neither physiological reasoning, nor anatomical induction can, to my mind, contribute to give this method any superiority; unless it should be said, that the advantage consists in drawing the blood immediately from an artery. The abstraction of blood from the general mass, whatever be the vessel from which it is taken,

amounts, I conceive, in the end, to the same thing, provided it be taken in the same quantity, and in the same time: unless, as I have just observed, experience should establish the superior advantage of taking it from the arterial circulation, in preference to the venous, which I am neither prepared to support, nor contradict.

A case of this fever will seldom, I believe, be met with, wherein the use of the lancet, to a greater or less extent, will not be applicable. But I am compelled to acknowledge that this powerful remedy is not to be considered in all cases infallible; and that it may sometimes be followed by decided disadvantage. This is no problematical doctrine; and the practitioner who has yet to learn its truth from practical demonstration, may have to regret his temerity. This circumstance, however, can by no means shake the general rule, supported as it is, by the best criterion of its utility,—unparalleled success. The danger consists in either applying the remedy too late, or too often; and it has fallen to my lot, to see, under my own direction, the abstraction of blood accelerate the patient's death; and this too, under circumstances that would seem to have fully justified its employment. After the supervention of the yellow suffusion, whatever may be the other symptoms demanding it, venæsection, I believe, will not be borne with impunity.

I shall now say a few words on the use of mer-

cury, our "sheet-anchor," in affections where the biliary organs are implicated. The medical world is already in possession of so much information upon this subject, that I can scarcely hope to add to it. Viewed in any way, the utility of mercury is incontrovertible. Calomel is the preparation usually had recourse to; and it is undoubtedly beneficial in whatever way it operates. Whether the practitioner be disappointed in its mode of operation or not,—whether it produce catharsis, when exhibited with a view to salivate, or salivate, when intended to act as a cathartic, the result in either case will be beneficial, though, perhaps, not to the same extent. I have prescribed it in various forms, in order to fulfil both these intentions, and the result has enabled me to speak of it most favourably.

During the summer of 1810, I was invested by the commander-in-chief with the medical superintendence of the Mediterranean fleet. Some of the ships were then visited, to an alarming extent, with the endemic of that climate. The fever was exclusively confined to those ships, whose men were exposed to the laborious duties of watering and refitting in harbour, which duties were commenced early in the morning, and continued through a long day, with little intermission, under an intense degree of heat, greatly increased in intensity by being reflected from an arid rocky soil. In addition to this, was to be reckoned the frequent abuse of

spirituous and vinous liquors, and not unfrequently the unguarded exposure of their persons to the chilling colds and dews of the night; while the ships at sea remained perfectly healthy*.

At that time I frequently recommended calomel in three grain doses, with as much pulv. antimon. every three or four hours. The antimony seemed to assist the purgative operation of the calomel; for this combination seldom failed to procure copious bilious stools, and to produce relief. I do not recollect any instance of the antimony, given in this way, creating nausea. On the contrary, it cleansed the intestinal canal, by increasing its peristaltic motion; and by emulging the biliary ducts, invariably relieved that symptom when present. In the treatment of the fever, however, of which this communication attempts the history, I usually gave the calomel in scruple doses twice a day, in many cases from the first invasion of the complaint, with the intention of attacking the disease speedily, through the system. But in this, I commonly failed during the first days, in plethoric habits. At this early stage, its only visible effect was to keep the bowels clear. Before the system was lowered, I could not observe that it evinced any effect through the medium of the circulation. Yet I can scarcely believe that the great quantity of mercury in many cases exhibited, could have been

* Vide Mr. Johnson's inestimable work "on the Influence of Tropical Climates upon European Constitutions."

all carried off by stool. Hence I conceive that the febrile action was too high to be overcome by the mineral, even supposing it to be absorbed. But after the lapse of two or three days, and the use of free venæsection and purging; and at an earlier period in debilitated subjects, and in cases of relapse, the mouth often became suddenly sore with profuse ptyalism, and rapid convalescence as certainly ensued, the ptyalism remaining as the only source of uneasiness to the patient. I do not recollect any deaths after the specific action of the mercury shewed itself; nor did the yellow suffusion occur after this symptom appeared. As to relapses after its use, my notes do not serve me with information upon that subject.

Purgatives are essential to the cure: and, as I observed, calomel with me ranked foremost; but the neutral salts were also in common use; and when there happened to be irritability of stomach with abdominal pain, the ol. ricini with mint water, or followed by an effervescing draught, answered well. To these were conjoined glysters.

The *cold affusion* or abluion, under the restrictions of the late Dr. Currie, often produced the happiest effects, as in the latter stages did the tepid or warm bath.

Blisters, in local affections, particularly of the head, were had recourse to, with the advantages

usually resulting from their application in such cases.

Antimony. It behoves me to speak with caution in recommending antimony, since the use of it has been almost proscribed by so many eminent authorities. I have, however, given with advantage, the pulv. antimonialis in three grain doses combined, as above related, with calomel; and certainly without producing the nauseating effects ascribed to that medicine. I have not been much in the habit of employing antimony as an emetic, having placed more reliance in the use of purgatives. But in the cases of the bilious remittent fever, wherein emetics were had recourse to, (which was always at the commencement of the disease), the pulv. ipecacuanhæ was given in conjunction with the tartarised antimony, and without occasioning any of the ill consequences which I have heard enumerated.

From the inadmissibility of emetics in the West India Fever, their use seems to have been interdicted here; but where spontaneous vomiting has early occurred, with the ejection of bile, and crude contents of the stomach, the patient invariably experienced a temporary alleviation. This circumstance emboldened me, on some occasions, to imitate the natural operation at that period of the disease, when the nausea and irritability of the stomach appeared to be in a great measure occasioned by its contents. At a later period, when what has

been termed the "gastric symptoms" supervene, I think a man must be possessed of either great hardihood, or great ignorance, to add to inverted action of the stomach, (whether we consider its source as inherent in the viscus itself, or derived, by sympathy, from the general systematic derangement) by the administration of emetics. This discrimination is, I am persuaded, deserving of attention, and may find its use in practice.

Vomiting, as a symptom, takes place at various periods of the disease; but I have not observed it in the Mediterranean earlier than the third day, excepting as a symptom coeval with the first attack. The matter ejected from the stomach was more commonly clear, or tinged with bile, than grumous. It was sometimes slimy or ropy, mixed with whatever had been recently swallowed. It a good deal resembled what we see in pyrosis: and this symptom, when it occurred at an advanced period of the disease, was connected with a train of others, which, in my opinion, rendered it strikingly characteristic. Every part of the surface was then *colder* than natural; with a cold dampness of the face, neck, and trunk; pulse feeble, frequent, and indistinct; features shrunk, with a languid look of the eye, dimness of sight, and dilated pupil; lips purplish; tone of voice slow and plaintive; deep sighing; the intellect appearing feeble, but collected; and the tongue with a white, clammy, sodden appearance, as if parboiled. In this unhappy and but

too often irremediable state, the patient continued for some time (the powers of life gradually receding) till death closed the scene. All our efforts to rouse him from it, were frequently ineffectual. Opium, ammonia, aromatics, brandy, æther, effervescing draughts, wine, spices, all failed ! Opium plasters, and blisters to the præcordia, were occasionally attended with better effects. But of all remedies, the warm bath seemed to be most useful. It communicated, through the medium of the surface, energy to the sensorium, and thence to the vascular system ; and by sympathy to the stomach. It enabled this viscus to retain small quantities of liquid nutriment, combined with light cordials ; which, in some cases, were given while the patient lay in the bath. The debility of the stomach seemed conspicuously to sympathize with the torpid skin. The stimulus of heat to the latter, caused an almost instantaneous cessation of irritability in the former.

Mr. Boyd, the surgeon of the hospital, was one of those who experienced the transition here related, from a high state of reaction, to that of extreme lowness, approaching to death. He had suffered copious evacuations, and observed a rigid course of abstinence for ten or twelve days, even wishing the depletory plan to be carried further ; and refrained from the necessary indulgence of the appetite, after a remission had obviously taken place, from an apprehension of the recurrence of fever. I was called to him in the middle of the

night, and found him scarcely able to articulate, vomiting a turbid or whey-coloured fluid; with excessive anxiety, sobbing, and a pulse extremely weak; cold clammy skin, and the features pale and shrunk. Cordials were immediately administered with the best effect, succeeded by light nutriment; and he finally recovered, but after a tedious convalescence.

This is a truly critical period, and requires the greatest vigilance and promptitude. For if it is not attended to early, the stomach afterwards rejects every thing swallowed. The symptoms are well marked, and ought to be duly appreciated. The languor, sinking, and anxiety, prostration of strength, and diminution or exhaustion of the vital energy, are here strikingly portrayed. I have observed this state to follow evacuations, especially by the lancet, when made too late; and it seemed to me rather to originate from this cause, than to be the result of exhaustion from the reaction of disease.

Delirium, I have not observed to be by any means a common symptom, even in the lowest and last stage of the disease.

At the commencement of convalescence, the greatest caution and care were required to prevent excesses. Intemperate indulgence of the appetite was a common cause of relapse. I found the recovery to be more rapid and permanent under half

allowance of diet, and a very small proportion of wine. Bark and tonics were perfectly unnecessary except in some few instances, where the digestive powers were much depressed, when quassia or calumba were exhibited with advantage for a few days. Drowsiness, for one, two, or three days, I noticed in some, as a curious precursor of convalescence. The patient in those cases expressed no want, and when roused for the purpose of administering food and medicine, he answered coherently, but with a degree of stupor, which evinced torpor of the sensorium and nervous system, similar to what we see in people exhausted from fatigue. From this state he would emerge after an indefinite period, refreshed and free from any complaint but debility: the appetite would return, and convalescence ensue.

Relapses were frequent, and often required the use of the lancet more than once; but in many instances, a brisk cathartic or two answered the purpose of removing the symptoms. In some I traced a proneness to constipation to be the cause of relapse; in which cases, small doses of calomel and compound extract of colocynth, had the best effect in guarding against this tendency.

In cases where the sufferings of the patient terminated in death, after the occurrence of the yellow suffusion, in addition to the more common symptoms leading to that event, the lungs were inflated with unusual difficulty, and in one half the time

occupied for expiration, accompanied with loud moaning, expressive of indescribable pain and anxiety. The abdomen was usually somewhat tumefied, and an aggravation of pain was evinced, especially upon pressure of the præcordia and hypochondria. The pulse became more rapid, and without strength; the stools were passed involuntarily, and death soon ensued.

Dissection. I regret my not being able to speak with minuteness upon this important subject. My dissections were not sufficiently numerous, and were confined chiefly to the inspection of the abdominal viscera. To this I was more particularly directed, by appearances antecedent to death. The few subjects I examined had the icteric suffusion, with the anxiety, pain, and abdominal tumefaction, already described. The gall-bladder, stomach, and duodenum contained but little bile. The liver, in one case only out of three, was enlarged. In the others it was diminished in size; but of a texture preternaturally firm, so as to oppose considerably more than usual resistance to the knife, and cut somewhat granular; which altogether indicated an impeded, if not obstructed circulation in the ramifications of the vena portæ; and consequently defective biliary secretion. In these last cases there was also an alteration in its colour, which approached to a light brown.

I am aware that my inquiries, in this extensive field, have been by far too confined to merit much

public attention. I shall not, therefore, presume to obtrude an opinion, either upon the cause of symptoms, or of morbid lesions, unsupported by the evidence of anatomical demonstration. But without descending to minutiae, if I may be allowed the common privilege of medical writers,—to theorize a little,—I would indulge my fancy. I shall make but a very few remarks on the nature and causes of the fever in question.

Its invading symptoms do not, in any essential manner, differ from those of fever in our own country. There is an obvious dissimilarity, however, as the disease advances, and this dissimilarity seems to increase in a ratio proportionate to the protraction of the disease.

Without attending to minute nosological distinction, I would say, that the Mediterranean Fever bears the same proportion or affinity to the synochus of England, which the Intertropical Fevers do to that of the Mediterranean; or, in other words, that they are all only degrees or modifications of the same disease, and that these modifications are chiefly subservient to, and dependent upon, diversity of climate. The Yellow Fever, for instance, of the West Indies, after the invading paroxysm, portrays a train of symptoms, characteristic of an intensity of degree, far exceeding those of either the Mediterranean or of the northern climates. Its inflammatory symptoms, if not subdued very early,

soon exhaust the powers of life, and rapidly run its victim into destruction. The bilious remittent, as it is termed, of the Mediterranean, viewed as the same disease in a milder form, displays a set of symptoms less aggravated in degree, and agreeably to the undeviating laws of nature, running a more protracted course: the exhaustion and visceral disorganization being in a ratio to the intensity of morbid action. Hence in *this*, depletion is admissible at a later period than in the *former*. The third and mildest form of fever, is that witnessed in northern climates, where the symptoms are more uniform in their progress, and less rapid in their course.

It will be remarked, that I allude to idiopathic fever alone, whether occasioned by contagion or miasmata, or without either. For I cannot allow, that in any of the fevers now under consideration, although the brain, stomach, intestines, liver, or all the viscera in the body be found deranged in structure, these derangements had any thing to do with the production of the fever. These morbid changes are consequent on the fever, and they are moderated or prevented, by subduing the violence of the reaction. This last, we must however also admit, is kept up by the local irritation of the viscus affected, when that is once established.

I cannot explain *why* what are usually called the two great remote causes of fever, viz. marsh miasma

and contagion, should produce a disease identically the same* ; or why a fever in every respect similar, should be produced without the intervention of either. We know this last to be the case. It comes daily under our observation in the navy ; and I may aver, without much fear of contradiction, because it is notorious to every surgeon who has served in the Mediterranean fleet, that the bilious remittent is much more frequently contracted from the more palpable sources of fatigue, intemperance (especially in drinking), and vicissitudes of heat and cold, than from either miasma or contagion.

* Marsh miasma, especially when in a very concentrated state, is said to occasion continued as well as intermittent fevers.