

AN
INAUGURAL DISSERTATION
ON

Yellow Fever.

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BY

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In taking a retrospective view of the various diseases, which afflict the human family, I find that there are few more interesting or more worthy, the deep consideration of the physician, and especially of the southern practitioner than yellow fever.

This fever is confined to ships, and to garrisons and cities situated on the coast, or at no great distance from navigation. This is a disease of hot weather and warm climates. It is seldom met with north of 40°. It occurs generally in the latter part of summer or beginning of fall, for it is usually thought to require 79° or 80° of Fahrenheit, continued two or three months to produce it. I have seen cases of yellow fever, occurring during the winter, in Key West, Florida, when the previous summer was perfectly healthy. When such was the case, the fever would appear sooner the following summer and rage with more than its usual violence.

A singular fact, noticed by various authors, is that this fever does not occur in all countries, where everything appears to exist for its production.

Symptoms, Course &c. — This fever begins in various ways. It may have the usual premonitory symptoms of fever, such as feelings of general discomfort, weariness or languor, sense of weight or oppression about the epigastrium, deficiency of appetite, pain in the back and other parts of the body. Instead of commencing as above stated, it may begin with a chill, but seldom amounting to rigors. Again it may come on in the midst of apparently good health. When the disease is fully developed, the skin is hot and dry, the pulse accelerated, the respiration hurried, the face flushed, the eyes red and watery, the throat sometimes sore, so as to render deglutition difficult. The stomach, now very irritable, rejecting every thing swallowed.

If pressure be applied, over the epigastrium, it will be found quite tender. The bowels are usually constipated, sometimes very obstinately so. The nervous symptoms are those from which the patient suffers most. The pain in the head, which is generally confined to the super-orbital region, is often excruciating, and for the most, continues, in a greater or less degree, through the whole period of febrile excitement. The pain in the back and limbs is often of the most agonizing character.

In this stage the countenance is generally marked with apprehension and anxiety.

Delirium and coma, are not uncommon symptoms. The febrile symptoms continue from a few hours to three days and sometimes longer; usual shorter. The stage of febrile excitement, more violent the case, and vice versa.

After the subsidence of the fever, great apparent amelioration takes place; the skin becomes cool

and soft, the pulse nearly or quite natural, the respiration calm, and the stomach comparatively quiet. The nervous symptoms also disappear, or are much relieved. This apparent amelioration is not like the remission or intermission of miasmatic fevers, for the disease is still marching on, and a continuance of the fever would be a favourable sign, as it would show greater power of the system to contend against its mighty enemy. As a proof that the disease is still marching on, the tenderness over the stomach, instead of being mitigated along with the rest of the symptoms, is increased so, as not to support even the slightest pressure. It is true that the redness of the conjunctiva, and flushed face may be gone, but in their place, we find a yellow colour, which gradually extends over the face, neck, and ultimately over the whole body. The urine also has a yellow tinge.

The period of apparent abatement continues from a few hours to twenty four. A new set of symptoms now follows, namely, those of debility or prostration. The pulse is quick, irregular and feeble, the skin yellow or of a bronzed aspect, the capillaries are in a sluggish condition, and when pressure is applied to the skin, the colour returns very slowly. The fingers, toes, scrotum and back often assume a purplish hue. The tongue becomes brown and dry; sordes collect about the gums and teeth.

The stomach becomes excessively irritable and a new matter is ejected, consisting of brown or blackish flakes diffused in a colourless liquid, which may be at first slightly tinged by them, but ultimately becomes black and opaque, this constitutes the black vomit of this fever.

In very malignant cases, this great prostration may come on in less than twenty four hours.

The urine which was scanty and high coloured during the fever now becomes natural.

Hæmorrhage takes place from various parts of the body, especially from the mucous membranes and petechiæ and vibices form on the skin. The anxiety and distress of the stage of excitement, are replaced by an extraordinary apathy, and the countenance expresses a gloomy indifference, the pulse becomes weaker, the skin cool and clammy, the bowels give way discharging large quantities of the same kind of matter as that ejected by the mouth, and the respiration becomes slower and slower, until the breath calmly leaves the body, but sometimes the final struggle is ended by convulsions. Instead of pursuing the fatal course above ~~described~~, a second fever

may set in, which is considered, as I stated before,
 a favourable sign. The secondary fever has
 nothing peculiar in its symptoms, and may
 last a variable length of time, sometimes
 ending in speedy health, and sometimes
 terminating in fatal exhaustion, and
 again it may run into the typhoid form,
 which may last with variable results
 for two or three weeks. Convalescence is
 usually tedious, and, obstinate sores often
 break out on various parts of the ~~the~~ body.
 This fever admits of great diversity, for
 instead of being as above described, it may be
 asthenic from the very commencement,
 with ~~the~~ pulse sometimes frequent, but oftener
 slow, and always feeble, and with such
 great muscular prostration, that the
 system is seldom able to react. Again
 the patient is struck down with stupor or coma,
 which is soon followed by convulsions and death.

The pulse and Tongue should not be too much depended upon, in this disease, for the Tongue is often clean, and the pulse natural. The distinguished Rush was accustomed to warn his pupil against the natural Tongue, and pulse in this fever. It is said, that in epidemics of yellow fever, an eruption sometimes occurs of a rash or papulous character.

Various other phenomena have been observed, by different Factors, which I scarcely consider requisite to mention.

Anatomical characters.— The blood is always coagulable before death, but the clot is softer than in health, and the buffy coat, when present, is of a gelatinous consistence. In malignant cases, it loses its vitality, and becomes dark, and dissolved. After death it is in a liquid state distending the veins. The brain and lungs are generally found healthy. The liver is variously affected, some-

Times engorged, sometimes dry, anemic, and of a yellow colour, rarely inflamed; fatty degeneration is considered characteristic of fatal cases.

The gall-bladder in its natural state.

The stomach contains more or less of the matter denominated black vomit; occasionally it contains blood in different stages of alteration. The muscular, and peritoneal coats of the stomach, are usually sound, but the mucous coat reddened, sometimes thickened and softened, but rarely eroded.

The bowels usually contain the characteristic black matter of the disease. The veins of the omentum, and mesentery, are usually distended with fluid blood.

Causes. — As regards the cause of yellow fever, much diversity has existed, but it appears to be peculiar, and specific. The hypothesis, which considers the cause, the same as that, which produces bilious fever, is, I think,

erroneous, as we shall see, when I come to investigate the nature of the disease. But I believe the causes of yellow and bilious fevers may co-operate, and thus produce a modified case of the disease under consideration. What ever may be the special cause of this fever, it is aided by epidemic influence, and a long continued elevation of temperature. Among the exciting causes, may be mentioned exposure to wet and cold, to night dews, fatigue, hot sun, intemperance in drinking, and excesses of all kind. Frost puts an end to the disease, but is thought to augment the number of cases, by developing the disease in those upon whom the cause had already acted.

Nature. — This fever has been regarded only as a higher grade of bilious fever, and even the celebrated Rush entertain this opinion,

If yellow fever were only a higher grade of bilious fever, we ought to see it, "cropping out," whenever there was any unusual prevalence of the latter. The symptoms and pathological conditions are also different. All fevers, in the beginning, have symptoms in common, such as headache, lassitude, pain in the limbs, and the like; but we must wait the progress of the case before we can decide.

Yellow fever is essentially a fever of one paroxysm; but the paroxysm is of very unequal duration, as before remarked.

The acclimated are less subjected to it than the unacclimated. The pulse is often natural, seldom amounting to a hundred in the minute. In bilious fever the chill is distinctly marked, there is also a marked periodicity; the pulse more accelerated often reaching in the paroxysm 120 or 140, in

The minute. The headache, is not of that super-orbital character, as in yellow fever, but is more diffused over the anterior portion of the brain. In bilious fever, if there be nausea, and vomiting bile continues to be thrown up to the last. When a person is attacked by yellow fever, there is usual some bile in the system, and it is generally thrown up in the commencement of the attack, but it is never seen in the advance stages of the disease. The Liver also presents different appearances in this fever, to what it does in bilious fever; In the latter, Liver is of various shades, dark brown, umber, bronze, and always gorged with blood. In the former, it is always altered in colour, being pale and destitute of blood. The brain is often affected in bilious fever but seldom in yellow fever. From these few remarks, on the relation of bilious, and

yellow fever, although there is scope left for a good essay; I hope it is sufficient to prove that yellow fever is a disease sui generis, and not a higher grade of bilious, as has been thought by many.

Diagnosis.— In the initial stage, it is almost impossible to distinguish this fever from other febrile affections. If anything aroused our suspicions, with regard to the nature of the disease, it would be the severe pain in the loins and lower extremities, the red suffusion of the upper portion of the face. In the ^{more} advanced stages, by the great irritability and tenderness of the stomach, the subsidence of the fever in one, two, or three days, with the superoention of yellowness of the eyes and skin, lastly and most characteristic, the occurrence of black vomit.

Prognosis.— From the records of the number of deaths from yellow fever, we cannot help from considering it an extremely fatal disease. Its fatality appears to be greater in some epidemics than in others, at least, this is the case as I have myself observed. I also noticed, during the prevalence of this disease, in Key West, Florida, that the first cases were almost uniformly fatal. For the intemperate and unacclimated there is little hope. According to Dr. Dickson of Charleston, S. C., the Irish, Germans and Scotch afford the worst cases; the Spanish, Italians and French, are apt to recover. Midway stands the Englishman, northerner and mountaineer. The unfavourable symptoms, in any individual case, are, a short febrile stage, a disposition to get out of bed, and walk, a doggish indifference in reference to every thing around

him, a hemorrhagic tendency with
 petechia and vibices, but the most unfavorable
 symptom is that of black vomit, ^{though} I know of
 nine cases of recovery after the occurrence of
 the last named symptom, I mention this
 simply to show, that one should never relin-
 quish his attentions to the patient, even after
 the occurrence of black vomit.

Treatment:— In regard to the treatment
 of this disease, I need not say a great deal,
 for there have been a good many
 deaths and recoveries from very dif-
 ferent plans of treatment.

In the beginning of the disease, if the
 stomach is full and cannot disgorge itself
 I would give a dose of ipecac or sulphate
 of zinc. Purgatives are useful here, and
 the one, almost universally preferred, is
 calomel combined with jalap or followed
 by a solution of sulphate of magnesia

Blood-letting in the early part of the disease, is sometimes beneficial, but it should not be carried to that prodigious extent, with which Rush employed it.

“Experience, says Gregory, has proved that though occasionally, it is not generally beneficial. The great object of the physician in this disease, ought to be, to bring the system under the mercurial impression. This may be best effected by administering two grains of calomel every two hours. In very severe cases the dose may be increased; in milder ones diminished. Should the calomel irritate the stomach, it may be combined with opium. Mercurial friction, and dressings to blistered surface will sometimes be found very useful in bringing about the mercurial impression. In support of the mercurial plan of treatment,

I will quote, a learned author of great experience in this disease; he says, "in the whole of the practice in yellow fever which I have seen, I have not noted, nor do I recollect a single case, in which ptyalism was induced during the continuance of the first stadium or febrile paroxysm which terminated fatally. During the fever, febrifuge remedies should be employed. Sponging or affusion with cold water is very effectual in removing the morbid heat, and should be repeated, when dryness of the skin, heat, and redness return. In asthenic cases sponging with warm water. Diaphoretics are generally considered beneficial, none perhaps suits better, than the effervescent draught, which also acts beneficially upon the irritable stomach. The patient ought to have as much ice or ice water, as he may wish

For pain in the head leeches & an ice cap with hot pediluvia may be resorted to. For the pain and irritability, in the first stage, we may use a synapism to the epigastrium

D^r Mathew Irvine, of Charleston, S. C., has introduced the acetate of lead into the treatment of yellow fever, he claims for it the beneficial influence of diminishing the inflammatory excitement of the gastric mucus surface. He gave it from the very commencement of the attack, ad ministering it while pursuing the mercurial treatment, in weak solution. This last preparation is thought by some to prevent black vomit

In conclusion I will remark, that when the patient begins to sink, our only remedies lie in tonics & stimulants. Sulphate of quinia or compound infusion of Peruvian bark, the mineral acids, capsicum egg-nog, bandy strong animal broths are our chief remedies.