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Malaria and its results



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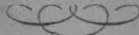
Washington County, Tennessee

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Malaria and its results

As regards the causes essential to the production of malaria there has been much dispute, it has engaged the minds of the ablest and most learned ~~men~~ of our profession and is yet unsettled, from which we would at once infer there remains something to be discovered concerning its requisites, or its nature. I do not choose this subject because I expect to advance any thing new or before undiscovered by others, but because it suits my peculiar fancy and exercising the right of opinion. I assume the position that decomposition of vegetable matter is necessary to the production of malaria; The essentials to the production of miasmata are heat moisture and vegetable decomposition, According to writers the effects which arise from the first mentioned cause seldom originate at a temperature under 60.

Fahrenheit's ~~thermometer~~ thermometer even vegetable decomposition ^{may} be going on. Continence of heat is also ^{so} necessary to its production, the summer may be very warm, but if not of sufficient duration the effects are not produced, the nearer we approach the equator the more violent its effects, showing a greater intensity of one of its causes, Moisture seems requisite to its exhalation as when the lands are overflowed in malarial regions, it is after the water has run off, and the ~~moist~~ moist surface of the earth exposed to the heat of the sun that the diseases begin, It is stated that in tropical climates, it is after the cessation of rains that malarial diseases commence,

Vegetable decomposition is denied by many to be essential to the production of malaria, but in my opinion it is one of its requisites, and whilst I write you must pardon references which of

necessity must supply experience with me,
we cannot account for the prevalence of,
malarial fever in newly settled countries
upon any more laudable theory, than that
the decomposition of vegetable matter has been
going on undisturbed for years, and when
exposed to the rays of the sun (as when the soil
is turned for cultivation) the miasm escapes
from the soil and impregnates the atmosphere
to be breathed by those exposed to it,

Robson of Indiana in a piece written for the
Nashville Journal of Medicine and Surgery,
says "our sickly season as is familiarly deno-
minated here begins about the first of July,
and is as regularly looked forward to and
prepared for by the profession as the farmer
looks forward and prepares for the labours
of his harvest, As the season advances towards

autumn the diseases became more severe and intractable. During the period intervening between 1830 and 1845 my practice extended for many miles around New Harmony, but more especially in the Wabash valley, reaching, not unfrequently, on both sides of the river to near Mt. Carmel. At that period but a small portion of the lands comparatively, were reduced to cultivation, and in all such cases the timber remained decaying in the field, and the dwelling house generally located in the center surrounded by a rank growth of very high corn, and at the distance of a few acres by a dense forest and thick under growth. This was the case both in the uplands and lowlands. The residence of those occupying the lowlands were generally located on the bank of the river, or occupying the slopes connecting

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The bottom with the uplands, were built of logs ventilated by the interstices between them. The occupants imperfectly clothed spent their winters generally with the door open regardless of the "pellings of the pitiless storm." Since 1845 up to the present I have witnessed a gradual and manifest change in the character of diseases in this locality, as modified by season, clearing up, draining and generally improvement of the country, as well as of the habits, and increased ~~new~~ resources of the people.

The clearing of forests in ~~sub-tropical~~ temperate regions may also favor the production of malaria. It is asserted that the miasma which exerts such injurious effects upon the animal system, contributes to the nourishment of vegetables (and in this way they account for the fevers consequent upon its productions prevailing

in autumn, in the spring and early part of
Summer, while vegetation is growing, it
absorbs, or consumes the miasma, and towards
the later part of the season, vegetation begins
to decline and ceases to absorb the miasma,
increasing the amount to be inhaled, thus
producing the diseases at this particular
season) According to this forests may afford
protection aside from shading the surface
from the heat of the sun, by absorbing the
miasma through their leaves, But in
Tropical climates when the heat is sufficient
to develop the cause in the shade, forests are
thought to do harm by promoting dampness,
and supplying material for decomposition,
It is an established fact that where we find
heat and moisture in connection with
vegetable decomposition, there we find malarial fever

prevailing, but when the disease prevail seemingly independent of this cause, as in deserts where no vegetation exists must be accounted for on the following hypothesis, it has been shown (Neculloch) that the miasma can be transmitted by wind to the distance of five or six miles, and it is just to conclude, the miasma has been carried to these parts by a continuous current of wind from some neighbouring marsh, or spot where vegetable decomposition is going on towards the desert or barren place when the disease were raging, if no impurities intervene (Wood) says various impediments seem to exert a protective influence by turning off the delinquent currents, Thus hills or mountains protect the regions beyond them ~~partly~~ in this way partly perhaps by their affinity for fogs and mist, A thick wood will occasionally ~~direct~~ ^{direct} the course of a

miasmatic wind and thus afford protection
to a family or even a whole neighbourhood,
The late Doct Parrish relates a case that fell under
his observation in which a family previously
in good health, was attacked with a violent
and fatal fever, apparently in consequence
of having cut an avenue for the sake of
a more extensive view through a wood
which intervened between the frame and a
large track of marsh. In the avenue
of marshy districts during the wet seasons
the vegetation is killed, and when exposed to
the heat of the sun, after the reflux of the
water decomposition commences, and the
consequence is a prevalence of malarial
diseases, but while the surface is covered with
water it seems to afford protective influence
by the absorption of the miasmatic,

we have various examples of this in the draining of ponds in neighbourhoods which have previously been healthy, the diseases consequently men upon this cause will suddenly break out with violence,

A. ~~1855~~ Mill dam stood near a little village in (Blount County, Tenn) it had ~~not~~ been standing for many years a vast amount of vegetable matter had accumulated in the bottom of the stream, the water had not been allowed to remain ~~off~~ drawn off for any length of time, and the inhabitants had previously been entirely free from malarial diseases, when finally the dam was torn away in the spring for the purposes of reconstruction, in the latter part of the season nearly all the inhabitants were attacked with a severe form of malarial disease, showing the cause to arise from the

decomposition of the matter accumulated in the pond, which the water had heretofore kept quiescent, A game clerk relates a case that occurred in Point Chreok Ohio, a dam was formed, which was drained off in the first of June every year, and the inhabitants of the neighbourhood remained intirely healthy; But from some cause it was left untill July, the season being dry, there followed no rain to wash away the silt and drift which had accumulated, the consequence being an anatact of autumnal fevers such as had never prevailed before in these regions,

Ralsan a game says "when the lowlands of Wabash valley are completely overflowen the inhabitants are more healthy than at any other season, it is only after the flood has covered a large amount of surface in may and June

and falls leaving the ground covered by a grate
 abundance of vegetable production exposed to
 the action of a hot sun that the putrefacti-
 ire masses is actively coming on and disease gener-
 ated. We notice in the statistics of malarial
~~regions~~ for the year 1854 that it was the most
 healthy season in those regions which the inhab-
 itants had experienced for many years, the
 cause attributed to the insufficiency of the
 growth of ~~vegetable~~ vegetation, on the account
 of the great drought of the season, on the con-
 trary, account the past season, on 1855 there
 has been a superabundance of rain and
 vegetation was very luxuriant, and it has
 proved to be one of the sickest seasons
 experienced for many years, the diseases raged
 with greater violence and were of longer
 duration than formerly?

(Evans on the Endemic Fevers of the Indies) says the exhalations from the marsh surrounding Castries, the Capital of the Island of St. Lucia in the East Indies, is peculiarly deleterious and in case the vapor arising from thence has been inhaled after nights full, it sometimes produces an attack of malarial ~~intermittent~~ intermittent, even more malignant than those of the celebrated Pontine marshes, This concentrated violence of the marsh of Castries has been experienced by the author after passing at night. He was sensible of a disagreeable odor while crossing the swamp, and was soon after taken with nausea, followed by a puking and profuse procysem resembling in many respects the ordinary intermittent. The next day the fever returned with the usual symptoms,

of the disease, At St. Lucia the disease which
occurs as endemic affections of every year
assumes different types, according to the ~~entire~~
constitution of the patients, and the length
of time he has remained upon the Island,

Thus while a native will merely experience a
mild attack of intermittent fever neuralgia
an unacclimated European will suffer from
a severe intermittent or remittent.

The very dogs introduced into the Island from
Europe in large numbers, are taken with
intermittents and remittent fever and gen-
erally in larger proportion than human
beings. Heat and moisture alone will
not produce the disease, on board of
ships cruising in latitudes most favorable
to the production the crew is never attacked
with malarial diseases, even the atmosphere

be saturated with fogs and mist, various instances are on records, but I deem it unnecessary to refer to any.

The most common results of malaria are intermittent and remittent fevers, and are the only ~~the~~ diseases which I shall consider; intermittent fever, There are three varieties or types of this fever, the quotidian tertian and quartan, in the quotidian the paroxysm occurs every day with an interval of twenty four hours, the tertian every other day interval forty eight hours, quartan every third day interval seventy two hours, Symptoms, the paroxysm is divided into three stages, the cold, hot and sweating stage. It is preceded by the symptoms of fever, such as feeling of languor, general uneasiness, pain in the head, The cold stage after this

These general symptoms the patient appears
chilliness or rigor these generally increase,
and are often distressing, ~~the~~ feels as if cold
water was trickling down his back, rapid
and successive shudders pass through the
body, and ~~the~~ teeth chatter, The surface
of the body is generally warm, it is pale
and contracted, the ends of the fingers are
purplish the countenance pale, The pulse
~~contracted~~ is sometimes irregular and feeble,
The duration of the cold stage is from a
few minutes to four hours, The passage from
this to the hot stage is ~~not~~ obscured by a
glow of heat, is first felt upon the face
and generally spreads over the whole body,
the surface is hot the cheeks are flushed the
skin contracted the mouth dry, tongue
pured great thirst sometimes vomiting the

puls is frequent and strong, Urin scanty, and high pulsed sometimes delirium, the duration of the hot stage is from two to ten hours, Perspiration first appears ~~upon~~ upon the hands and feet, then upon other parts of the body, the patient experiences relief, the febrile symptoms subside, the skin becomes ~~and~~ cool, the mouth becomes moist and in every way ~~the~~ the patient seems ~~to~~ gradually restore to health, The length of the intermission depends upon the type of the disease.

Treatment, in the cold stage nothing is necessary to be done, In the hot stage cooling lotions may be given, the effervescent draught should symptoms of inflammation of any organ occur bleeding should be resorted to, In the sweating stage do not expose the patient

to cold. After the paroxysm administer a
purgative composed of calomel and jalap, after
an evacuation of the bowels, administer
sulphate of quinine from ten to twenty
grains, It should be given during the intermission,
The disease is liable to return on the seventh,
fourteenth, and twenty first days from the
last paroxysm, Its return on those days
should always be anticipated, and prevented
by the administration of sulphate of quinine.
In inflammatory intermitent fever if there
be no contraindications, subdue the inflammation
by general and local bleeding and calomel,
In malignant or congestive intermitent
fever, Stimulents should be administered,
Such as brandy, camphor, ammonia & opium, &
opium may be used if there be no inclination
to sleep, Should the patient survive the

still administer quinine freely,
Remittent, fever This is ushered in with
slight rigors with feelings of general
debility, pain in the head which continues
from two to three days, then a regular
chill, often which fever, sometimes with
a remission generally in the after part
of the night. A continuance of the par-
oxysms, and the fever is very apt to produce
inflammation of the liver ~~and~~ spleen,
or some other internal organ,

Treatment, Convert the fever into an
intermittent type by depletory measures,
bleed until syncope approaches, then ~~do~~
immediately administer Quinine,

Should idiosyncrasies prevent the use of
the lancet, the same effects may be
obtained by the administration of cathartics.

give Calomel in fifteen or twenty grains
doses till the bowels are freely evacuated,
And then it will be proper to give Peruvian
Bark or some of its preparations, of these
beyond comparison the most valuable is
the Sulphate of quinia,