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Ever summary

1. Facts from Pliny & others, colored but no names
2. Ormeau's phrase in the first sentence
3. Said to be contemporaries by some, with a
   author asleep to late contemporaries

Scorbutus.

J. C. Thompson
Scorbuts

History

Scurvy may be defined to be a disease, in which the blood is vitiated, and the system debilitated, with a tendency to hemorrhage and petechiae, and to local congestion, or feeble and imperfect inflammation in various parts of the body.

This disease was very prevalent in all the Northern Countries of Europe about two centuries ago. It however became less frequent as Agriculture improved, and it had now almost entirely disappeared from land, as the influence of this art has extended itself to the most remote parts of Europe. It seems to have been almost unknown to the Greek, Roman, and Arabian physicians, even the writings of Hippocrates are so vague on this subject, as to leave us in doubt whether or not the disease was known to him.
The condition of the Roman Army under the command of Germanicus, as related by Pliny, whose account of the diseases that infected it, though unsatisfactory, coincides with the general appearance of scurvy. We have similar descriptions in several of the expeditions that took part in the Holy War, and particularly that under Louis IX. as related by Joinville, in which the Author, in referring to the spongy state of the gum, says "The barbers were forced to cut away very large pieces of flesh from the gum, to enable the patients to eat. It was heartrending to hear the cries and groans of those on whom the operation was being performed, they seemed like the cries of women in labour." It does not however seem to have attracted general attention till the famous voyage of Vasco da Gama in the year 1497. Who on this memorable voyage, lost about one hundred of his men, out of a crew of 160, by this frightful scourge. In the year 1525 we find Claus Voight, when referring to the different diseases which frequented the Northern Nations, giving a very graphic description of scurvy.
which he tells us infested chiefly the soldiers and prisoners. In the year 1645
the Faculty of Medicine at Copenhagen
published a Consilium treating of the cause,
prevention, and cure of Scurvy. From this
we learn, that it was then very prevalent
among the Danes, and other Northern nations.
Not much more than about a century ago,
this disease seemed to have prevailed to
a very great in our own country. So much
so indeed, that it went under the popular
term of “black legs.” It beset our allies with
considerable violence among the English
troops who formed the garrison at Quebec, who
died of it much from cold, and the want of
fresh vegetables and provisions, that out of a
garrison of 6000 men, 100 died of this distemper
and that was very nearly double that number
of men unfit for duty (smolets West, of Eng.)
Shortly after this period Todere informs us
that Scurvy committed sad havoc among
the French soldiers in the army of the Elector.
And that he, under his treatment between
deleven and eight hundred soldiers afflicted
with it. Of late years Scurvy has occasionally
broken out among our soldiers, but not nearly to the same extent it did in former years. This disease has not merely confined itself to the various armies, and to persons shut up for any length of time in prisons; but it has even, in a worse degree, ravaged the various fleets. Set me therefore very shortly, trace its progress on sea. At the formerly mentioned general attention seems not to have been drawn to this disease, until the memorable voyage of Vasco de Gama, who first discovered a passage to the East Indies by the Cape of Good Hope in the year 1497, the melancholy result of which voyage I have already stated. About this period also the spirit of enterprise appeared to be in full vigour and activity; the various civilized states vying with each other in their endeavours and to whom should fall the honour of discovering unknown and remote countries, the means at their disposal then, being but poorly adapted for undertaking voyages of any considerable distance; the winds...
-quence was, that during the next century not only did this disease make its frequent appearance, but raged with great virulence. Numerous are the instances on record, would quote of the ravages of this frightful scourge, but suffice it today, that in the year 1741 the fleet under the command of Lord Anson, lost nearly half its crew in little more than six months. In 1780 it also prevailed to a very great extent in the Channel fleet; since then it has been much less frequent: although cases do occur among occasionally among those employed in Arctic regions.

Causes of Scurvy.

Various are the theories laid down as to the Causes of Scurvy among many, the following may be mentioned: cold and moisture, Contagion, impurity of the atmosphere, use for a lengthened time of salt provisions, and privation for a considerable period of fresh succulent
vegetables. It is doubtful whether any of these causes, with the exception of the last, can ever be produce scurvy, although they exercise a powerful influence over it once it has made appearance. In regard to moisture and cold, and impurity of the air, I need only refer back to the late Russian war, in which never did men suffer more from these causes, than did the British soldiers, who fatigued and worn out after a hard day's work in the trenches, was often compelled to lay his head upon the cold damp ground, and in many instances scantily and ill clad. Again let us look to the sufferings our soldiers endured during the late Mutiny in India, toiling hard all day under a burning tropical sun, and at night lying underCanvas tents, exposed to the cold dew which we know are so common in Eastern Climes; still under all these circumstances is favourable for its production. I am not aware of its ever having made its appearance. Many other instances
I could mention but I think sufficient has been said to point out that these causes are of themselves incapable of producing this disease; although conjointly with the other causes above mentioned they exercise a most powerful influence on contagion.

Whether or not scurvy is contagious, seems to be a matter of controversy. Some authors maintain that it is, while others positively assert that it is not. Many are the instances brought forward by each of these theorists in support of their several doctrines; but I think the general opinion now supported is, that like all other diseases which prevail epidemically it is contagious. Alee for a lengthened time of salt provisions, this for a long time was supposed to be of the main, one of the chief causes of scurvy; but this opinion has now been shown to be erroneous, for of late years we have seen scurvy break out to a considerable extent in prisons, and
And other places, where no salt provisions have been used; although at the same time salt provisions on look in a creature debilitate the constitution, as being less nutritious than flesh, and thereby impoverish the system, and render it more prone to the invasion of this disease.

In regard to the privation for a considerable period of flesh succulent fruits, and vegetables; it would be need less for one at present to go into detail respecting this the chief cause of scurvy, as it must be evident to all from the many instances recorded of this frightful scourge, that its ravages were solely confined to those, who were compelled by force of circumstances or other causes, to refrain from their use. I therefore intend to spare one further consideration of this as a cause, until I come to speak of the treatment of this disease.
Symptoms

The symptoms of yellow fever themselves very gradually. The first symptom generally noticed is a pale, slightly yellow and dusky hue of the complexion, accompanied by difficult respiration, great languor and debility. The gums soon become tender and sore, with a tendency to bleed on the slightest touch, and on examination they are found to be swollen and spongy, and of a livid blue colour. The lividity is usually at the free margin of the gums, and fades gradually towards the gums of the teeth. As the disease progresses, the gums ulcerate, and frequently slough, rendering the teeth loose in their sockets. The gums also blistered and swellings in the subcutaneous areolar tissue, more especially in the hands and calves of the leg; the swelling often hard and firm, and presenting much the appearance and colour of the lymphatic produced by a blow. Effusions also take place
in the deep seated cellular tissue, and between muscles, more especially in the legs
and thighs, rendering them very painful,
and much swollen; the swellings may be
partial and confined to one spot, or
they may be diffused over the whole
limb, and their most common seat is the
ham. We also find the effusions frequent-
ly occurring between the periosteum
and the bone; causing node-like swelling,
which become exceedingly painful on
pressure; they are never however fol-
lowed by suppuration, or expiation
of the bone. Along with these swellings
and blotches, petechiae make their
appearance in various parts of the skin,
appearing first generally on the legs,
and afterwards on the thighs, arms,
and trunk of the body, the hands
and face generally remaining free.
They are however found on the in-
terior of the mouth, more particularly
on the tonsils, gums, and lips, where
they are sometimes raised or papil-
lated. Among the many distressing
symptoms of Scurvy, and one which is to be most dreaded, is that of hemorrhage, which is often very profuse, and not easily restrained. It most frequently occurs from the gum, and hole, and from any ulcer that the patient may happen to have on his body at the time; sometimes from the intestines, occasionally from the stomach, rarely if ever from the bladder. In regard to the particular action taken on by ulcers in Scurvy, Dr. Aicken has the following observations: Scurvy ulcers have the following character. Instead of pus they exude a thin fetid serous fluid, mixed with blood; their edges are generally of a livid colour, and swollen; a coagulum is soon formed on their surface, which can with great difficulty be wiped away, as separated from the adjacent parts. These are soft, spongy, and putrid. When however the coagulum is removed, another shabby forms again, followed by a soft bloody fungus of considerable size.
Turned by sailors bullocks live.

(Fitten: Essays on several important subjects in Scurvy)

The state of the bowels seemsLarry; the stools are sometimes frequent, offensive, and bloody, partaking in a great measure, the character of the stools in typhoid fever; at other times they are very costive. The secretions in general are scanty. There is suppression of the perspiration causing the skin to become hot, dry and rough. The urine is commonly high-colored and scanty, and renders an acid reaction, on the introduction of a piece of litmus paper. There is not infrequently fever in some stage of the affection, but this is as often absent as present. And then the tongue is clean, the pulse is natural, and the appetite good, at least till a very late period of the disease.

Pathology For a long time Scurvy
Was considered to be a cutaneous disease, but as Dr. Wattson justly remarked, that it cannot be regarded merely as a cutaneous disease, for he had seen the purple spots on the mucous surface of the mouth, the throat, the stomach, and the intestines, on the peritoneal investment of the abdominal cavity bile, in the substance of the muscles, and even upon the membranes of the brain, and in the sheaths of the larger nerves; and he has known them to be accompanied with large extravasations of blood, in most of the vital organs of the body. In a very interesting case related by Dr. Fairburn, he found the sides and upper parts of the chest swollen and livid, with a feeling of crepitation, and considerable edema over the trunk, in some places the cellular and muscular capillaries of the neck were injected with blood, and emphysematous. The thorax contained about a pound of a fluid resembling blood, of a very dark colour, and viscid consistency. The lungs, bronchial
Cubes, and trachea contained a large quantity of bloody serous fluid, and beneath the internal coat of the latter, there was a slight effusion of dark venous blood. Between the folds of the anterior mediastinum, and of the pericardium, a considerable quantity of very dark blood was effused in the cellular texture. Under the lining of the cavities of the heart, and under that of the aorta, there was a large bloody effusion. The floating abdominal viscera presented a dark leaden colour, and on the intestines were a few petechiae. The inner coat of the stomach towards the pylorus was also thickly studded with them. The liver, spleen, and right kidney were softer than natural. (Edin Med. Chir. Term. Vol. II) Andral observed in one case, the aorta filled with dark liquid blood, and very soft. The spleen is often enlarged, attened with blood, and very soft, though generally free from bloody extravasation. The centrioles of the brain frequently con
tain considerable quantities of serum. The texture of the heart and muscles is in general jelly-like. The bones are usually fragile, infiltrated with blood, separated from their cartilages, and epiphyses, and dist. joined in the site of old fractures.

All the above characters point at once to the blood as the original of the disease. Some authors however maintain that the bone at once made lies in the digestive system, and thereby renders it unfit to perform the function of the elaboration of bile, from the materials received into it, and by this means a depraved and vitiated blood is the result. But as have mentioned before, the organs of digestion are in general remarkably exempt from derangement during the whole course of the disease: the appetite is good, and the function of digestion seems to be unimpaired. And as soon as the nutritive materials, out of which healthy blood can be prepared, are introduced into the system, there seems to be no deficiency in the powers of
assimilation: In fact we see that even when the disease is far advanced, how rapidly a cure may be effected by attention to a properly regulated nutritive regimen—proving thereby that the fault is not attributable to any non-performance in this system, but to its supply.—

That scurvy is undoubtedly a blood disease, and that the morbid state of the blood is the source of all the symptoms, and the cause of all the morbid changes observed, is now universally admitted. Although in what manner the blood is altered, or in what constituent it is deficient, remains yet a matter of uncertainty. Numerous experiments have been made with a view of determining the condition of the blood in scurvy; and it has generally been stated by writers on this subject, that the blood, when taken from the body does not coagulate, or if it does, only in a partial manner; forming a black semisolid jelly-like mass, from which the serum separates but partially, if at all. T. Budd however
States, that in three well marked cases with which he had the opportunity of examining, he found that the separation of the blood into serum and clot was as perfect and rapid as in that of healthy persons. He therefore considers the blood of scurvy as resembling that of chlorotic. In as far as, the diminution of red corpuscles are concerned, and in support of this theory brings forward the pallor of the surface of the body during life, and of the mucous membranes, when not stained by extravasated blood after death.

Andrealand maintains that there is a deficiency in the quantity of fibrin in the blood of those who suffer from scurvy. Dr. Duck in the contrary alleges, that there is a great excess of fibrin, and a marked diminution of the coloring matter. And has drawn up the following table of the analysis of the blood in three well marked cases which came under his observation.
<table>
<thead>
<tr>
<th>Case</th>
<th>Age</th>
<th>Appearance</th>
<th>Specific gravity</th>
<th>Clot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>27</td>
<td>Pale straw colour</td>
<td>1.028</td>
<td>Small, firm, buffed and capped</td>
</tr>
<tr>
<td>2</td>
<td>33</td>
<td>Do</td>
<td>Not ascertained</td>
<td>Large</td>
</tr>
<tr>
<td>3</td>
<td>23</td>
<td>Yellow, hazy</td>
<td>1.025</td>
<td>Small, firm, buffed and capped</td>
</tr>
<tr>
<td>4</td>
<td>45</td>
<td>Yellow straw colour</td>
<td></td>
<td>Large, dry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inter Hematocrit</th>
<th>Fibrin Albumen</th>
<th>Salts</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.49.9</td>
<td>47.8</td>
<td>84.0</td>
</tr>
<tr>
<td>8.35.9</td>
<td>72.3</td>
<td>76.6</td>
</tr>
<tr>
<td>8.46.2</td>
<td>60.7</td>
<td>74.2</td>
</tr>
<tr>
<td>7.88.8</td>
<td>133.7</td>
<td>67.2</td>
</tr>
</tbody>
</table>

From the preceding statements respecting the condition of the blood in Scrofula, we may arrive at the following deductions.

I. That although in general the blood does not coagulate perfectly, still there are cases on record, in which the blood has not only coagulated, but even presented the cupped surface.

II. That the fibrin is slightly increased.
III That the proportion of albumen is in general normal.
IV That the red corpuscles are notably diminished.

Dr. Parrord ascribes to the disease of the blood, cob as owing to a deficiency in the due proportion of potassa or its salts in this fluid. And grounds his opinion on the following grounds:

I That in all scrobutic diets, potassa exists in much smaller quantities than in those that are capable of maintaining health.
II That in all substances proved to act as antiscorbutics, a large quantity of potassa exists.
III That in scurvy the blood is deficient in potassa, and the amount of that substance thrown out by the kidney is less than that which occurs in health.
IV That scrobutic patients will recover when potass is added to their food, without the use of succulent vegetables or milk.
V That the theory which ascribes the cause of scurvy to a deficiency of potassa...
in the food, is also capable of explaining many symptoms of that disease.

Until further researches are made in regard to the above theory, I think the impoverishment of the blood in Scurvy must be attributed to the want of fresh succulent fruits, and vegetables, or their juices, which furnish some ingredient essential to the due constitution of the blood.

Treatment

With the auxiliaries of cleanliness, proper ventilation, a dry atmosphere, and fresh provisions, the disease yields more rapidly to proper treatment than Scurvy, and in none is the treatment more simple. The great point to be remembered in the treatment of Scurvy, is the copious administration of fresh succulent fruits and vegetables, or their juices; as it must be apparent to all from the many instances of this virulent disease, that its savages were confined principally to those, who by force of circumstances were compelled to abstain from their use. It is also an
Incredible fact, that in races where this diathermy was raging with uncontrollable destruction, putting down its victims by hundreds, and where all other means seemed rather to aggravate than appease its fury, the mere addition of fresh fruits and vegetables to the dietary, acted as if it were like a spell, and at once extinguished the flame of this terrible disease. What then are the substances which proceed in the highest degree the antiseptic virtue? In regard then to fruits and vegetables, we find that those belonging to the natural family of the Caricatææ, such as limes, oranges, and lemons, stand highest in the scale. Dr. Trotter however seems to think that a great depends on the state of maturity of the fruit; in an experiment performed by him on some black slaves, affected with scurvy, in nearly an equal degree, he gave to three of them limes, to other three three ripe guavas, and to the remaining three green guavas. They were kept under the half deck, and served by himself two or three times a day. They lived
in this manner for a week; at the end of which time, those who were restricted to ripe guavas were in much the same state as before the experiment—while the others were nearly well. We must therefore infer that unripe fruits are preferable to ripe. In Sweden we find that Linnaeus strongly recommended the fruit of the Rubus Chamaemorus, or cloud-berry. All succulent vegetables like fruits, are more or less anti-scorbutic. Those belonging to the natural order of the Cruciferous, seem to possess this property in a high degree. Among which, we may mention cabbage, radishes, water-cress, lettuce, onions, peas, potatoes, carrots, and the different poddies, have also been classed among the anti-scorbutics. Infact Dr. Bayly informs us, that he succeeded in banishing scurvy from the Millbank Penitentiary, by the use of potatoes. Little need be said of the inestimable value of lemon juice as an anti-scorbutic, for since its introduction into our navies, scurvy seems almost to have entirely disappeared. In regard to fermented liquors,
They do not seem to have justified the expectations entertained concerning them. Dr. Titter, Dr. Macbride, and Dr. John Clark affirm that they have never seen much good result from these cale. Sir Gilbert Blane speaks highly of spruce beer. And Captain Cook considered malt-sweet work as one of the most powerful antiscorbutics. Pure pharmacoeous substances seem to possess little or no antiscorbutic virtue; although in a state of slight fermentation, they seem to some cases to have done good. Of all antiscorbutics however that I have mentioned, the citric acid, or that of lemons, is the only one that can in any measure approach towards the character of a specific. Bilke in many cases has proved of great service, I think it succeeded in curing scurvy, which broke out in the Perth Penitentiary, by the use of it. In regard to the medicinal treatment, little remains to be added. If the bowels are constipated mild saline purgatives must be had recourse to. Opium may be given at night in order to procure sleep, if much pain or wakefulness be present. Astringents, on the
Shape of the mineral acids, prove very beneficial in tending to suppress hemorrhage, while at the same time: they improve the appetite. Dr. Garrod found the carbonate, and bitartrate of potash very serviceable. As local applications, solutions of chloride of lime, sulphate of zinc, or very dilute hydrochloric acid may be applied to the glands. For ulcers on the surface of the body, a very good dressing is that of lint soaked in a lotion, consisting of one part of lemon juice, and two of water. When the limbs are swollen, and painful, great relief is obtained by applying hot and fomentations.

J. C. Thomson