

# Microbe-like formations in the blood of patients with chronic diseases

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## Abstract

A number of different microbe-like formations, not described earlier, have been identified by means of direct microscopy of untreated blood using a darkfield, phase contrast and interference contrast with a magnification of up to 1:1200. Some of these formations are found in healthy individuals, although only rarely. Others have thus far only been observed in patients suffering from chronic diseases such as severe allergies, multiple sclerosis and cancer etc. These microbe-like formations may occur alone or in clusters. The appearance of the clusters can vary as follows:

1. Small bubble-like formations with small moving granules (up to 7  $\mu$ ).
2. Larger bubble-like formations with microbe-like formations (up to 1/10 mm).
3. Roe-like accumulations of small mobile granules.
4. Ball-like structures with lifeless, cone-shaped centres and peripheries composed of moving microbe-like formations.
5. "Swarms" with a large number of active microbe-like formations and severely altered red blood corpuscles.

The alterations described above cannot be observed in ordinary stained blood smears. Their origin and classification cannot be determined with certainty, but the possibility that they are microbes cannot be ruled out.

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## Introduction and background

That microorganisms invade the human body and thereby cause somatic disturbances has been totally accepted by the medical profession since the time of Pasteur, and for many diseases the causative microbe has been described. For chronic, degenerative and malignant conditions no microbes have been found that can be conceivable explanations of the diseases, despite much searching. Nevertheless the thought has been raised regularly in medical discussions that chronic diseases of unknown etiology could be due to an invasion of microorganisms such as viruses, bacteria and fungi. It can be difficult to confirm the presence of microorganisms in body tissues microscopically and by means of cultures. An example of this problem is the anaerobic bacteria whose presence, for example, in insidious postoperative infections has been difficult to demonstrate. It has become possible only through the use of special techniques of obtaining the specimens and special culture methods. One still suspects that certain unclear, chronic, infectious-like diseases could be explained through the presence of microorganisms that have not yet been able to be demonstrated.

## Earlier research

Two principal lines of thought, which contradict one another, can be observed within microbiology: (1) Monomorphism, where it is thought that microorganisms appear in an unchangeable, constant shape and that they can be divided strictly into groups. (2) Pleomorphism, where it is thought that microorganisms can have cycles, that is, they go through different stages of development and that there is a continuous development from virus via bacteria towards fungus.

Monomorphism, is the viewpoint that has been sanctioned within traditional medicine ever since Pasteur. One of the foremost advocates of pleomorphism, Günther Enderlein, published the results of this research in a monograph in 1924 - *Bakterien-Cyclogenie*. After detailed microscopic analyses of blood from both animals and human beings, Enderlein believed he could demonstrate the presence of microorganisms in the blood and, in addition, different stages of development in them. He believed that in certain stages of development these microorganisms lived in symbiosis with the body's own cells and that in other phases of development they could cause disease.

Enderlein thought that the optimal condition of health existed when the microbes were in an early phase of development and that microbes in later developmental stages became more and more pathogenic. Owing to that, the symbiosis could be changed to parasitism upon the body's own cells.

Based on these ideas, I have used special microscopic equipment to examine blood from a number of healthy and sick individuals, the latter suffering from chronic diseases of unknown etiology.

## Material

Healthy individuals: 60 healthy experimental subjects and patients with acute minor illnesses or injuries, with an age range of 20-30 years, were examined.

Patients: These cases came from my own practice. The diagnoses were made at the hospital. The types of patients involved were primarily those with severe allergies, neurological diseases, skin and muscle diseases, and different types of malignant processes. There were approximately 500 patients.

## Method

1) Microscopic equipment: Leitz' laboratory microscope Dialux 20 equipped with a 100W halogen lamp. Modified UK-condenser for darkfield, phase contrast and interference contrast. Plan-Fluotar-objective. Binocular photo tube FSA. All documentation was done with Leitz' completely automatic microscope camera, Vario-Orthomat.

2) Materials and specimens for microscopy: Blood from the fingertips of the experimental subjects. The drop of blood was smeared out by capillary action to a thin layer between the cover slide and the object slide. In order to prevent drying, the edges of the cover slide were covered with immersion oil. Microscopy was carried out immediately or within 4 hours after the specimens were obtained.

## Results

### Healthy individuals

By means of the microscopic study of large smears, microbe-like formations were found in the blood of these individuals that were similar to those that will be described later, but in a very small number compared to what was found in the blood of sick individuals. These formations can be divided into:

a) Bubble-like formations of different sizes, from 5-10  $\mu\text{m}$ , which are present alone or in groups. They contain granules that whirl around at great speed (*Figure 1*).

b) Microbe-like formations of different sizes and shapes. The size can vary from  $\frac{1}{2}$  to 70  $\mu\text{m}$  and the shape from round to bean-shaped or worm-like. During long periods of observation (hours) the shapes can merge into each other. These formations always have their own activity that clearly differs from Brownian molecular movement and the small forms can be seen both inside and outside the red blood cells (*Figure 2*).

### Patients

In patients with chronic diseases the findings described above increased both in quantity and in size. Sometimes the bubble-like formations burst and their contents went out into the plasma.

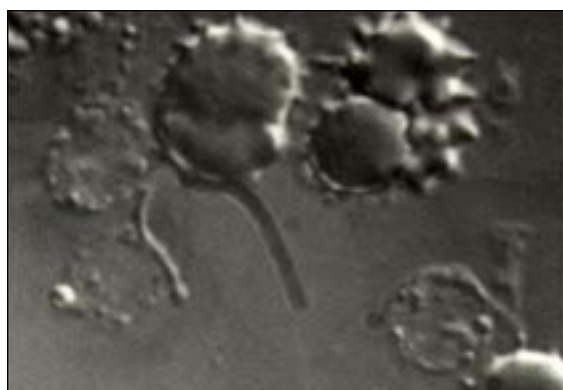


Figure 1. There are two to the left, and one to the right, bubble-like formations filled with small granules that whirl around at great speed. Some of the granules lack mobility and appear to be attached to the membrane of the bubble.



Figure 2. Microbe-like formation that shows a pronounced widening on its left side. The widened area sometimes seems to get stuck on the slide. Sometimes, however, such a formation can move itself out of the visual field.

Findings which were not observed in healthy individuals:

- a) Roe-like accumulations of small granules. Sometimes the granules separate themselves and spread out into the plasma (*Figure 3*). In a study, the development of the granules in the patient's own serum was followed for five months. The granules did not divide themselves, but grew in length, eventually resembling the worm-like formations with their own activity described above.
- b) In patients with anemias the erythrocytes were sometimes coated with a transparent sheet that was rather like the erythrocyte in appearance and shape. This sheet could form a long narrow process that sometimes had a small widening at the end of it (*Figure 4*).
- c) In patients with long-term malignant tumours, three types of formations have been observed namely (1) large bubble-like formations, (2) ball structures and (3) "the swarm".

## 1. Large bubble-like formations and formations with large numbers of bubbles

Large bubble-like formations (size up to 1/10 mm) or many smaller bubble-like formations scattered over the entire smear occur. Sometimes they can be held together by means of threadlike connections that run between the blood corpuscles. When the blood is smeared out into a thin layer between the cover slide and the object slide, the bubble-like formations look like round cavities (*Figure 5a and b*).

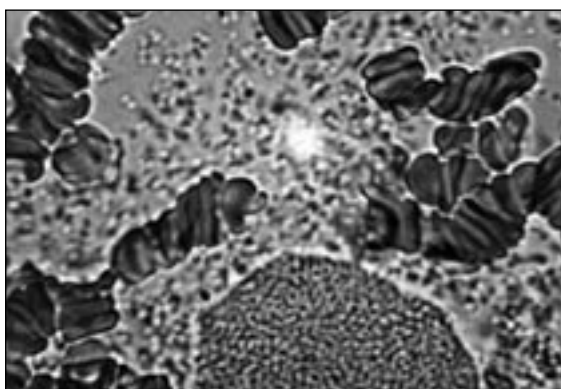


Figure 3. Roe-like accumulation of small granules. The granules appear to come loose and go off into the surrounding plasma.

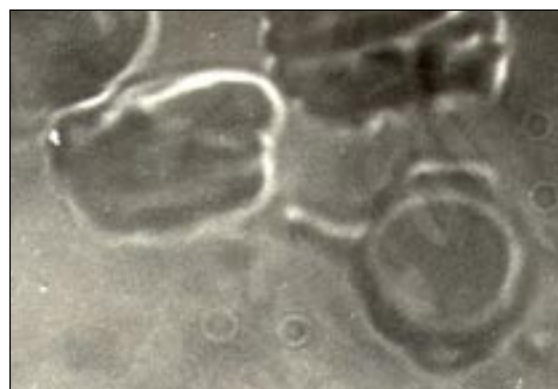


Figure 4. Blood corpuscle that appears to be attached to an active microbe-like formation with the ability to emit a little neck with a thickening at the end of it. This finding occurs in patients with anemia.



Figure 5a. Round cavities in the blood smear. Large numbers of mobile particles of different shapes and sizes always occur in the cavities. The cavities could be bubble-like formations. They occur singly but also in large numbers and then are often held together with band-like threads that run between the blood corpuscles in the smear.



Figure 5b. Ibid Figure 5a.

In these large bubble-like formations large numbers of active microbe-like formations of different sizes are always seen. The more chronic the disease, the greater and more numerous the bubble-like formations one can see. So far I have found the largest bubble-like formations in multiple sclerosis.

## 2. "Ball" structures

Sometimes ball-like objects occur in the blood. When such a "ball" is flattened out between the cover slide and the object slide, a disc-like formation appears that can be 1/10 mm in diameter. Around it is a zone with large numbers of active microbe-like formations of different shapes and sizes. The inside of the disc lacks mobility and is sometimes cone-like in appearance (*Figure 6*).

## 3. The "swarm"

With a magnification of 1:100, apparently unwarranted bright areas are seen in the smear. Here the blood corpuscles become less dense and the erythrocytes become somewhat "moth-eaten" in their contours and more and more transparent towards the centre of the bright spot (*Figure 7*). By means of interference contrast microscopy with a magnification of 1:1200, a large number of active microbe-like formations of different sizes and shapes are seen in such a bright area. They are both inside and outside of the erythrocytes that are seen to change into so-called thorn-apple forms or to degenerate and take on a polymorphous appearance (*Figures 8 and 9*).

This swarm is probably held together in a little clot of phlegm-like substance. Squeezed out between the cover slide and the object slide in the smear it appears as a light area that sometimes can be several mm in diameter.

## Discussion

My first thought concerning these observations was that it could be a question of artefacts owing to dirt on the slides. With equivalent microscopy of only the object and cover slides some arberant forms could be seen, but not all of the types that have been described above.



*Figure 6. A so-called ball formation that is squeezed out between the cover slide and the object slide. The centre area shows no activity and appears lifeless. In the surrounding area there are large numbers of mobile particles of different sizes and shapes. These are also found among the red blood corpuscles in a large area around this formation.*



*Figure 7. A brightness in the blood smear. The centre here is almost completely clear. A scattering of very small particles can be imagined in the periphery and lower half of this smear.*

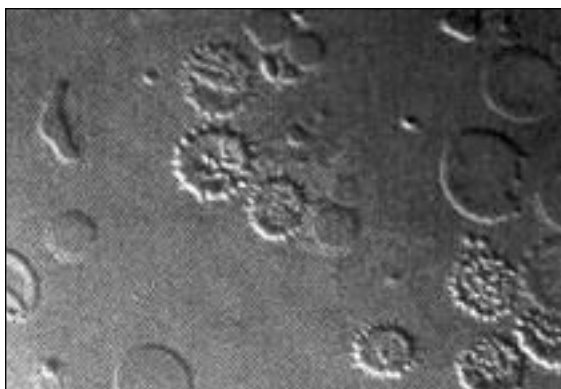


Figure 8, the same as Figure 7. One can find, mostly, large numbers of thorn-apple forms in which small, active particles are often seen, especially in the borderland area between the bright area and the surrounding blood corpuscles. This is well seen in this figure.

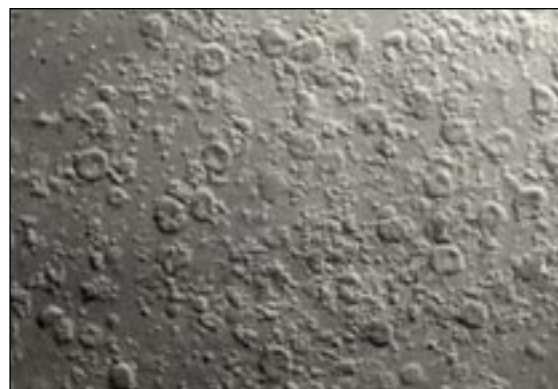


Figure 9, the same as Figure 7. By means of a magnification of 1:1200 and interference contrast it is seen that in the lower half of the bright part the blood corpuscles have degenerated and have assumed a polymorphic appearance. In addition, a tight growth of mobile microbe-like formations are seen that seem to be able to attack the blood cells.

Blood coagulation and the formation of fibrin could be considered as an explanation for the formations. This is contradicted, however, by the fact that the formations can be observed within several minutes after obtaining the specimens and also by the intense activity that cannot be illustrated in stills but can be observed in the living specimen. The microbe-like formations move with swimming movements, sometimes right out of the field of vision.

Of course it is still too early to comment on the origin and classification of these microbe-like formations and further research is needed in this area. The fact that certain formations so far are observed only in sick people and that they all increase in number with chronic disease, plus their very distinctive pattern of activity, causes me to regard them as living microorganisms of the same type as Enderlein described earlier.

Their significance for the disease in which they are found can be either in the form of a contributing etiological factor or a parallel phenomenon.

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