Voyages in Tuberculosis

Microbacteria are a group of bacteria that cause several serious infections. The best known is Mycobacterium Tuberculosis, the causal agent of tuberculosis.

IT'S TIME TO END TB

The bacterium was identified and linked to the disease in 1882 by Robert Koch. But tuberculosis is a very ancient disease. The earliest evidence comes from Middle Eastern skeletons (~1000 BCE) and Egyptian mummies.

Tuberculosis has killed more than one billion people over the last 200 years, including many famous individuals.

IT HAS KILLED MORE THAN MALARI A, INFLUENZA, SMALLPox, CHOLERA, THE Plague AND AIDS COMBINED!

Queen Victoria chose the National Association for Assistance of Tuberculosis Patients in 1908.

Bacteria propagate through the air and only 3 to 5 cells are enough to initiate an infection. Cholerae is responsible for cholera, while TB is caused by Mycobacterium Tuberculosis.

Tuberculosis is highly prevalent in many regions of the world. Infected people can develop active tuberculosis (symptomatic and very contagious) or latent tuberculosis (without symptoms, non-contagious, but which may evolve into the active form).

The bacterium is mainly transmitted through coughing and sneezing by patients with active tuberculosis, many of whom may not yet show characteristic symptoms, such as persistent cough, night sweats, fever, weakness, breathing difficulty, weight loss, loss of appetite and weight loss.

The bacteria are characterized by their unique and robust cell wall, which protects them like a cocoon or in armor.

After entering the lungs, Mycobacterium Tuberculosis can trigger the formation of a structure called granuloma.

It's a cellular immune response of the body to contain the infection.

Granuloma

After some time, the fibrous structure formed calcifies and can be detected by X-ray.

Myobacteria are characterized by their unique and robust cell wall, which protects them like a cocoon or in armor.

Mycobacteria are a group of bacteria that cause several serious infections. The best known is Mycobacterium Tuberculosis, the causal agent of tuberculosis.

Everything that nourishes our immune system, such as good nutrition, advanced age, smoking, alcoholism and chronic diseases, increase the probability of being infected and the incidence of the disease.

On the other hand, prevention is very important and involves a balanced and healthy diet rich in vitamin D, zinc, sunshine, exercise and avoidance.
Although these bacteria can be killed with a cocktail of antibiotics, a number of strains are resistant to most of the currently available antibiotics and are therefore called "multidrug-resistant.

The world of mycobacteria isn’t restricted to the tuberculosis agent, which is only the most famous among them. More than 100 species of mycobacteria are known. Most of these are called non-tuberculous mycobacteria (NTM) and live in aquatic environments, in soil, and frequently also in artificial water distribution systems, where they persist in biofilms.

Especially located inside sownheads and facenic’s lungs, where they accumulate. Multiplying and living before reaching our lungs and causing sometimes very serious chronic infections.

NTM mainly affect immunocompromised people, the elderly, the chronically ill, people with previous lung diseases, etc. Infecting infections by some strains of Mycobacterium avium: Mycobacterium, Abscessus is difficult. Sensitivity and application of antibiotic cocktails is different from the ones used for tuberculous treatment.

In the case of Mycobacterium Abscessus, some strains are often indistinguishable with the antibiotic arsenal available to us.

A biofilm is a complex and structured biological matrix that adheres to surfaces and accommodates microbiological communities, while protecting them from external aggressions.

Little is known about the mechanism and transmission of NTM, some are extremely resistant to adverse conditions, such as high temperatures, acidic environments, and dryness, among other stress conditions.

And we need to understand them better so that they never reach the “thief” and biofilm’s level of their deadly invisible!