

## Alexander Fleming and the discovery of penicillin

The official English physician, Alexander Fleming came back from First World War with a dream: to search a way to reduce soldiers' suffering due to infected wounds, what imposed pain and for many times a process still faster towards death.

In 1928, returning to Mary's Hospital in London, he studied *Staphylococcus aureus* bacterium, responsible for abscesses in opened wounds provoked by firearms. He studied so intensely that, one day, exhausted, decided to take vacation. He left, leaving laboratory glass containers with cultures of the bacterium without supervision. This negligence made him found, when returning, one of the glasses without cover and with the culture exposed and contaminated with the mildew of atmosphere.

He was about to throw all material away when looking in the interior of the glass, perceived that where mildew had been formed, there was no activity of *Staphylococcus*. He concluded that the mildew, deriving from *Penicillium* fungal, acted secreting a substance that destroyed the bacterium.

Despite by chance, the first antibiotic of human being history was created – the penicillin – that is for many scientists one of the most vital discoveries of human being history. For them, the medicine just became a true science

from antibiotics on. Before them, it was a good exercise for diagnosis of infectious diseases. In what concerned to treatment and cure, just religious interpretation could understand or help.

Because of Alexander Fleming discovery the doors of a new world were opened, with the sprouting of a great industry dedicated to produce penicillin and other antibiotics, responsible for the possibility of a life with quality for people who suffered with tuberculosis, pneumonia, meningitis, syphilis, among others infections.

The penicillin was truly isolated in 1938 by Ernst B. Chain and Howard W. Florey, also in England. Although soon after Fleming discovery, there were many doubts about the efficacy of mildew, it did not stop medical scientists to continue studying the substance. With Second World War and the necessity of helping more wounded people, Dr. Florey, pathologist of Oxford University, assumed penicillin research, retaking Fleming mildew culture and extracting from it a brown dust. He tested the substance in 80 types of bacteria, proving its efficacy against microbes and inactivity in relation to white blood cells.

In 1940, penicillin was used in the first human patient in England, a police officer, victim of a serious sanguineous infection. The world then started to know and to benefit from a vital weapon for life and for existence.