Caventou, Pelletier & - History Of Quinine

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150th anniversary of discovery of quinine Note Malaria parasite and quinine formula Stamp- France, 1970

Cinchona bark and quinine sulphate in pharmacy Stamp-Republic of Rwanda, 1970

Pelletier and Caventou Stamp-Rwandese 1970

The most famous plant medicine from the New World has a long and fascinating history. In Peru, South America, Mendoza Chincon was Viceroy from 1629-39. His wife, Countess of Chinchon of Spain developed a serious disease (malaria) and unfortunately, it took a serious turn. When the bleeding treatment failed, her physician, Juan Del Vega, tried a local remedy called quina bark. To the amazement of all, the countess recovered. "Peruvian bark" was introduced into Spain from its colony in 1639. Famous botanist Carl Linnaeus later named the genus Cinchona in honour of the countess.

The news of the episode soon reached Europe and many countries immediately imported shiploads of this "wonder bark" and they were sold at infernally high price. The order and the supply of Peruvian bark to the West were soon controlled where it was known as quina or Jesuit's bark for the next 150 years. It was frequently adulterated or sometimes completely faked. This was the leading factor in its inconsistent effect. Catholic prejudice was so strong that many Protestants refused to use it. The puritan Oliver Cromwell died of malaria because he refused the remedy endorsed by Rome.

In Paris Pierre Joseph Pelletier (1788-1842), professor of toxicology at the Ecole de Pharmacie in Paris medical school, and Joseph Caventou (1795-1877), a student of pharmacy, jointly firmed up their mind to solve the mystery of "cinchona bark". In 1817, they tackled the problem that had baffled scientists for decades- wrestling the secrets of Peruvian barks that were so useful in malaria. After sweating out for months they isolated from the yellow bark, a sticky, pale yellow gum that could not be induced to crystallise. The gum was soluble in acid, alcohol, and ether and highly effective in malaria. The two men named the new chemical quinine after quinaquina the name given by Peruvian Indians to the bark. The announcement was made in 1820. Caventou and Pelletier prepared pure salts of quinine, had them tested clinically, and set up manufacturing facilities. They refused any profit from their discovery. Instead of patenting the extraction process they published the method of separation of quinine and cinchonine from the cinchona barks so that anyone could manufacture quinine. They received many honours; the most lucrative was Prix Monthyon of 10 thousand Francs awarded by the French Institute of Science. A monument was erected in Paris commemorating this achievement of Pelletier and Caventou.

Thus the cure of malaria was found long before its aetiology was known, since Charles Laveran, only in 1880, first identified the malarial parasite on unstained blood film in Algeria.

The Dutch were eager to develop their colonies and bought some seeds from South America. Within ten years, cinchona trees grew in Java. By 1930 Java produced more than 95% of world's supply. Outbreak of WW-II cut off the bark supply to all but Japanese and their allies. This led to production of synthetic anti-malarial drugs which had already begun in 1920s. Ironically Southeast Asian seeds were then returned to Central America to establish plantations. Today as a result of widespread drug resistance to some of its synthetic versions, quinine has reemerged as a drug of choice for falciparum malaria.

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