Medicine in colonial times
(1535-1821)
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During the XVI century, with the arrival of the Spaniards and the beginning of colonization, guided by greed, and with some Christian mysticism, and armed with better technology, they brought to America Spanish medicine which was not other than an obsolete medieval medicine. This was a Galenic or Hippocratic medicine improved by the influence of the Moors, that included the examination of the pulse and of the urine, the prescription of purges and bleeds in addition to prescribe triaca.

Eventhough those who practiced may have been well enrobed, this medicine was, by and large, not any better than pre-Hispanic medicine; in fact, it was not very effective in modifying the natural course and outcome of different maladies. We recognize that both the native and pre-hispanic medicine had a very large placebo effect; however, we believe it was better given the large array of available medicinal plants.

EPIDEMICS DURING COLONIAL TIMES
The diverse pre-Hispanic civilizations suffered a number of different endemic infectious processes, some of them regionally distributed. As it was already noted, there is evidence that tuberculosis, Chagas’ disease, bartonellosis, syphilis and parasitic diseases were present prior to the arrival of the Spaniards. Of course, common diarrhea, pneumonias, skin infections (due to streptococcus and staphylococcus), urinary infections, also existed like in any other human group, given that these infections result from microorganisms that have accompanied humans from ancient times prior to their arrival from Asia 15,000 years ago.

The problem arose when the Spaniards, who came with their own culture but also with their own germs to whom they were already immune as they had survived them from early in their childhood, arrived into the New Continent. The native population had had no previous contact with these germs and no immunity to them; as a consequence, after their first contact with the Spaniards, a number of very lethal epidemics ensued which, to a certain extent, limited the ability of the natives to defend their land.

In the case of Mexico, it is well documented how smallpox caused a great mortality among the Aztecs. In Perú, it has been said that Huayna Capac Inca died of smallpox, but that was not the case. Reading some of the chroniclers of the time we could not be sure that in fact this statement is valid; we only know that he died after suffering “fevers” when the Spaniards were in the coasts of Ecuador (1).

Measles, chicken pox, whooping cough, and diphtheria (garrotillo) also afflicted the Native American population; measles was usually followed by pneumonia. Malaria, yellow fever, bubonic pest, typhus (tabardillo) and leprosy were brought to
America from Europe and Africa, mainly by groups of African slaves, or by the same Spaniard seamen.

If to these epidemics, which caused enormous morbidity and mortality among the natives, we add famine, as a result of the fact that the natives have been left landless and forced to work in the mines, and the numerous fights in which they were involved, it is easy to understand the significant decimation of the native population once the Spaniard colonizers established themselves here in America.

Given that disease affected natives and Spaniards alike, the Spaniards saw the need to establish health care centers including hospitals, convalescent homes, asylum and refuges. In these establishments women and men were separated; the same occurred between Indians and Spaniards, African descendants and army, religious and marine personnel.

**THE HOSPITALS DURING COLONIAL TIMES**

Once Lima was founded in 1535 and a Spanish government had been established, the different peninsular institutions were installed. The first hospital for the delivery of health care to the Spaniards was built in 1538 in *La Rinconada de Santo Domingo*. Below we list the different hospitals that were built:

- 1550: Santa Ana Hospital, for the care of Indians. Its main supporter was Lima’s Archbishop, Fray Jerónimo de Loayza.
- 1552: Royal Hospital of Saint Andrew, for the care of Spaniards.
- 1559: Saint Mary of Charity Hospital (or Saint Cosme and Saint Damian) for the care of Spaniards.
- 1563: Saint Lazarus Hospital for the care of lepers.
- 1575: The Holy Spirit Hospital, in the port of Callao, for the care of seamen.
- 1593: The Convalescent Hospital of Saint John for the care of Spaniards.
- 1594: Saint Peter Hospital (later Called Saint Felipe Neri), founded by Saint Toribio de Mogrovejo for the care of the clergy.
- 1594: Orphanage.
- 1646: Saint Bartholomew Hospital for the care of African descendants.
- 1648: Our Lady of Carmen Convalescence Hospital.
- 1649: Hospital/Home Saint Cross of Atocha.
- 1669: Saint Refuge Hospital for the incurable, initially only for men.
- 1670: House for refugees.
- 1715: Asylum for the poor.

In general, the care in these hospitals was for the poor, the abandoned, the terminally ill, the unprotected or those declared incurable. The wealthy Spaniards were often treated at their homes, receiving there their medical care as well as religious services.

The construction of hospitals during the colonial times was not limited to Lima. Similar health care delivery or palliative centers were also built in diverse viceroyalty cities. In Cusco, the first military Hospital Saint Bartholomew was built in 1548. Saint Lazarus Hospital (1555), Hospital of Our Lady of the Remedies (1566), The Almudena (or Saint Andrew Hospital (1646), and the General Hospital for Indians and Natives (1558) were also built. In Anta, Arica, Arequipa (*San Juan de Dios* Hospital, 1559), Cajamarca (1630), Chachapoyas, Huancavelica (1609). Huaura (1674), Huaraz (1770), Moquegua (Saint John Hospital, 1726), Piura (Saint Ana of Bethlehem), Puno (Saint John Hospital, 1798), Trujillo, Saña and Sicuani,
hospitals were also built. There were many other establishments which they did not rank as hospitals; they were considered asylum, convalescent homes or Inns and they were administered by religious orders or by pious people. All religious orders had, among their many activities, hospital work; however, there were some that had made a specific hospitality vow. Among them, we have the Charity Order, the Saint John Order and the Order of Our Lady of Bethlehem (bethlemites).

THE PROTOMEDICATE ROYAL TRIBUNAL

The Protomedicate, an old Spanish institution dated back to the Roman Empire, was established in 1568 by a Royal Decree from Felipe II, who named Don Antonio Sanchez de Renedo as its first Protomedic and President of the Tribunal. This tribunal started its work in 1570. Representatives of the Protomedicate were named for the most important cities; they were the Protomedic lieutenants. The jurisdiction of the Protomedicate of Perú included the Viceroyals of Perú, Panama and Nombre de Dios.

The function of the tribunal was to examine and provide licenses for the practice of medicine and related services such pharmacy. The tribunal also reviewed the validity of the Diplomas for Bachelor and Doctor of Medicine as requested by those applicants who wished to practice the profession; it also controlled the distribution of medicines and medicinal plants. Tribunal personnel visited pharmacies and intervened in public health problems.

To obtain a license, according with the 1571 constitution, the applicant first had to get a Bachelor of Medicine degree. The applicant was then examined in a public and solemn act which usually took place in a church annexed to the cloister of Universidad de San Marcos; he had to answer to two of six conclusions from Theoretical Medicine and Natural Philosophy. The texts used were the Hippocratic Article, the Cannon of Avicena and the Christian Philosophy. Being Protomedic between the years of 1808 to 1814, Don Hipólito Unanue was able to convince the Viceroy Abascal to facilitate the construction of the College of Medicine and Surgery of Saint Ferdinand in 1808.

THE MEDICAL SCHOOL

The University and General Studies of San Marcos was established in Lima the 12th of May of 1551 by a Royal Decree from the Emperor Carlos V and the Queen Mother Doña Juana; from them on, it was felt necessary to establish a medical school. Thus, there were two Departments for the teaching of Medicine, the Prime and Vespers or, morning and afternoons, respectively. They were made official in 1634 by Royal Decrees.

To graduate as a Bachelor in Medicine, the student first had to attain a Bachelor of Arts degree after three years of study. Then he had to attend the Prime or Vespers Departments' classes for another three years and be properly certified of his attendance. Those classes were followed by medical practices that took place in the main hospitals in Lima. In 1660 a new department was created, the Galenic Method or Curative Art and in 1753 the Department of Anatomy, which had been in operation since 1711, was made official.
The position of Protomedic fell upon the Head of the Prime Department of Medicine. Thus, there were 26 protomedics, being Cayetano Heredia, the last of them. In 1848, President Don Ramón Casilla abolished the Protomedicate and replaced it with a Board of Medical Directors which had similar attributions as the Protomedicate and which was constituted by the faculty of the Independencia School (the new name of the medical school).

THE PRACTICE OF MEDICINE DURING THE VICEROYALTY
Those who practiced medicine were divided into categories according with their social class and the studies done. First, there were the Medical Doctors, which were the enrobed or professionals which had graduated from a School or Faculty of Medicine after complying with all the established requirements. These professionals were Spaniards or legal descendants of Spaniards (both maternal and paternal). This was called "pure blood" which was essential to study at the university and to graduate.

In Europe during the XVI century the fusion between medicine and surgery had not taken place. The manual tasks were performed by surgeons; they also had to study in a School or Faculty, approved their courses, practiced side-by-side with a surgeon and graduated, albeit in a less pompous manner than the Medical Doctors. Due to their knowledge of Latin, these practitioners were known as Latin Surgeons to differentiate them from the Romantic Surgeons who had studied and had been examined in a romantic language such as Spanish; this did not mean, however, that the Romantic Surgeons had less skills or knowledge that the Latin Surgeons. The surgical practices, wound healings and minor surgeries of the body surface always fell to practitioners who did not fulfill the "pure blood" requisite; these were individuals, resulting from the early mixing of Spaniards with Natives and African descendants which gave rise to very distinct castes. Finally, there were the phlebotomists or minor practitioners whose main job consisted of performing bloods in different body areas according with orders given by physicians. The mulattos José Manuel, José Manuel Dávalos and José Santos Montero were surgeons who despite the color of their skins became known for their abilities and skills.

The pharmacy or pharmacopoeia was part of medicine at that time; the pharmacists' tasks included the preparation and distribution of the complicated prescriptions ordered by the physicians. Like in any other place and time, there were those who practiced medicine without having any license. These were charlatans; the promedicate was after them.

However, during colonial times, there was another type of medicine, in parallel to the Spaniard or official, and perhaps more extensively used. This was the practice of the native curanderos. These curanderos, loyal to the oral tradition of their ancestors, continued to practice among the natives, despite intense persecution by the political and religious authorities. On their favor, however, was the rich herbalist medicine which was something that the Spaniards embraced and exploited sending the medicinal plants to Europe.

It is necessary to rescue and recognize the enormous effort displayed by all health care providers being them doctors, surgeons or healers considering the knowledge, procedures and medications which were available and accepted as valid at that time.
HIPOLITO UNÁNUE AND THE TEACHING OF MEDICINE

Unánue was born in Arica (August 13, 1755). After studying at the Saint Jeronimo Seminary in Arequipa he came to Lima around 1777 (6,7). He graduated from Universidad Mayor de San Marcos as a Bachelor of Medicine in 1783 and as a Doctor in 1786. By 1788 he was already heading the Department of The Method of Medicine. He associated with other intellectuals to constitute the Society of Friends of the Country in 1790, publishing the Mercurio Peruano. Since 1753, there had been a Royal Decree to built an Anatomic Amphitheater; however, that had not been done because of economic difficulties. Thanks to the support of the Viceroy Francisco Gil de Taboada y Lemos, Unánue was able to have it built in 1792 in the old Saint Andrew Hospital; it was the first of its kind for the teaching of medicine in Spanish America. He succeeded Don Pedro Bueno as the Major Royal Cosmographer between 1793 and 1797. In 1807 he was named Peruvian Protomedic. In 1811 he found Saint Ferdinand School of Medicine and Surgery.

Unánue And Saint Ferdinand Medical School

The School of Medicine and Surgery of Saint Ferdinand was established in Saint Ana Square in a building joining Saint Andrew Hospital. Its curriculum was based on the «Synoptic Scheme» approach composed in 1808 by Unánue. With this curriculum, Unánue pretended to improve the teaching of medicine which was obviously changing in its concepts (4,6-7). However, Hippocratic and Galenic medicines still had important influences.

Construction for the School of Medicine and Surgery of Saint Ferdinand started in 1808; the same year classes began. It was recognized by the Court of Cadiz in 1811 and sanctioned as a Royal School by Fernando VII in 1815 while Unanue was visiting Spain.

Unánue traveled to Spain in 1814 to represent in the courts the Province of Arequipa and reclaim the inheritance of his disciple, Don Agustín de Landaburu y Belzunce. Converted into one of the wealthiest men of the region, he came back to Perú. Despite his liberal ideas he enjoyed the trust of Viceroy Pezuela whom in 1821 named him secretary of the emissaries to interview General Don José de San Martín. Once the independence was proclaimed, he was named Minister of Treasure (1821-1822) by General San Martín. Subsequently, he was named Minister of Government and Foreign Relations of General Simón Bolívar between 1824 and 1825. Towards the end of 1826, he retired to private life to the Arona Hacienda in the Cañete valley where he died (July 15, 1833).

San Ferdinand School, which was born and grew under the Spanish Kingdom, soon became inundated by liberal ideas which were rapidly adopted by students and faculty alike. Because of the support from the faculty to the cause of the Liberation, Don José de San Martín changed its name from the Royal School of Medicine and Surgery to The Independence School. In 1821 the Royal Protomedicate Tribunal was changed to General Promedicate of the State. Protomedics of that time were Miguel Tafur (1825-1833), Juan Castañeta (1833-1835), José Manuel Valdés (1835-1843) and Cayetano Heredia (1843-1848). At this point this institution was replaced by the Board of Medical Directors.

In 1826, the General Directorate for Public Beneficence was created; this entity took over the administration of hospitals, orphanages, homes for the refugees, prisons, and cemeteries as well as stimulated the use of vaccines.
SUMMARY
In summary, the medicine that Spain brought to the New World was medieval; it was a humoral medicine, of bleedings and purges, probably not any better than the aboriginal medicine. In fact pre-Hispanic medicine was probably better since it counted with a variety of medicinal herbs. This was the reason why the Spanish Crown's main interest was to bring these plants to Spain in order to study them and, eventually, use them.

With the Spaniards and their African slaves came measles, smallpox, malaria, yellow fever and leprosy, primarily. These maladies caused significant morbidity and mortality among the native population who was unprotected as they have never been exposed to them. If to these diseases, the inhumane labor in the mines and in the encomiendas is added, the rapid decimation of the native population of the American continent can be easily explained.

Spaniard medicine during Colonial times did not benefit from the scarce medical advancements that took place in other European countries or the fact that the scientific basis of humoral medicine were being questioned. Such information was not accessible as Spain exerted an economic monopoly over its colonies under the careful watch of the Spanish Inquisition.

The Hippocratic or humoral medicine, with Hippocrates, Galen and Avicena as its highest representatives, was taught and practiced, the same as in Europe, until the middle of the XIX century.
REFERENCES