

Original Article

The Diseases of the Medici Family and the Use of Phytotherapy

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The Medici Project is a paleopathological and historico-medical research, based on the exhumation of corpses of the Medici Family buried in the Medici Chapels (Florence, San Lorenzo). The scientific research carried out on these remains permits us to reconstruct habits and causes of death of members of this famous family of Italian Renaissance. The comparison between the literary sources and the paleopathological evidence is also important to reconstruct different therapies. Physicians, who assisted the most important persons of the Medici Family, have left a rich literature about their patients: the treatments were based on the use of plants and natural substances. Analyzing these sources is of unique importance and throws light on the therapeutical choices of the time.

Keywords: History of medicine – medici family – renaissance

The Medici Project

May 25, 2004: an international team of historians, paleopathologists, anthropologists and archaeologists descended upon the church of San Lorenzo, in Florence, officially starting the Medici Project, a paleopathological and historico-medical study, whose aim is to reconstruct the habits, diseases and causes of death of the Medici Family, who are buried in the Medici Chapels (D. Lippi. *The Medici Project, Herald of Europe* 3, 2006, pp. 122–5; D.Lippi, G. Fornaciari, GF Gensini. *Evidence Based History of Medicine: The Experience of the Florence Medical School, Proceedings of the 40th International Congress on the History of Medicine*, Budapest August 25–30, 2006, pp. 633–6; D. Lippi, *Illacimate sepolture. Curiosità e ricerca scientifica nella storia delle riesumazioni dei Medici*, Firenze, FUP 2006).

The paleopathological study of the bodies would increase considerably knowledge currently available about diseases and life habits of the Medici Family, which were till now based on iconographical and literary sources. In fact, from archive data we have an entire list of pathologies, which will be strengthened or weakened by paleopathological investigation:

Infectious diseases: smallpox, typhus, tuberculosis, pneumonia, syphilis, plague, malaria, echinococcus cyst;

Metabolic diseases: obesity, hyperlipoproteinemia, anemia, nephrolitiasis, bladder stone;

Joint diseases: hereditary arthritis;

Cardio-vascular diseases: atherosclerosis, heart failure;

Traumatic conditions: gunshot injuries, fractures;

Toxic diseases: acute intoxications, mercury intoxication;

Malignant tumors: breast carcinoma;

Malformations: congenital malformations, dwarfism.

The paleopathological investigation will find evidence of these diseases, throwing light on the nosographical definition of ancient physicians.

Medici and Phytotherapy

These pathologies were obviously treated with natural means, phytotherapy played a very important role and the Medici interest in plants contributed also to the development of Renaissance natural history.

Florentine humanist scholars consulted and translated manuscripts of Pliny's *Natural History* and Dioscorides' *Materia Medica*, acquired by Cosimo the Elder and Lorenzo the Magnificent: Cosimo I's personal curiosity about medicinal plants made him the ideal sponsor for the first botany professorship and the first public botanical gardens in Europe.

In fact, medicine could rely only on these therapeutic strategies: medicinal plants in Florence were produced for the hospital's patients as early as the 15th century in the garden of the Hospital of Santa Maria Nuova. The 'simple garden' was the primary supplier of the Apothecary's shop, which was present at the Hospital already in the 15th century; its first catalog was compiled by the director Giuseppe Baldi in the mid-17th century. In 1545, Cosimo I. founded the Botanical Garden of San Marco, entrusting Luca Ghini of its arrangement. Ghini had studied at the University of Bologna, where he taught medicine and herbalism (1534). The leading Italian naturalists of the 16th century, from Aldrovandi to Cesalpino, were trained by Ghini. In 1555, he returned to Bologna as lecturer of medicine.

The Botanical Garden of San Marco, also known as the 'Giardino delle Stalle' [the Stables Garden], was designed by Tribolo and acquired quite a reputation for its rare plants in the late 16th century, when it was under the direction of Giuseppe Casabona, who was engaged by Francesco I to introduce and cultivate rare plants. In 1626, for example, as per Luca Ghini's request, Joseph Cincio, personal physician to Margherita d'Austria, sent rare plant samples for the Orto Botanico in Pisa (ASF, Mediceo del Principato 6108.440. 30 Giugno 1626). In the 17th century, Paolo Boccone and other botanists greatly enriched the garden, but the Botanical Garden of Santa Maria Nuova and the Botanical Garden of Pisa, founded by Luca Ghini, continued to play a more important scientific role. It was the great botanist Pier Antonio Micheli who, in the early 1700s, transformed the Garden into a botanical research center of international celebrity. Giovanni Targioni Tozzetti took over Micheli's position in 1737, in the same year of Gian Gastone's death; Gian Gastone was the last Grand-Duke and the Medici Family extinguished with him.

The Therapies

During the Renaissance, new political independence from the Church and a renewed interest in the classics fostered a flowering of scientific, medical and cultural achievement. The literary sources provide a lot of information about the health conditions of the grand-dukes and about the therapies which were used to treat their diseases. Some cases are particularly interesting from this point of view.

In 1875, it became necessary to restore Michelangelo's statues in San Lorenzo, which decorate the tomb of Lorenzo Duke of Urbino and Alessandro Duke of Florence. The marble slabs covering the marble case were removed and the contents were examined. Lorenzo's skull (1492–1519) showed a 'deep wound, produced by a sharp instrument' in the nape of the neck and it was interpreted as the scar of a wound; in reality Lorenzo had

been hit in the head during a battle in 1516 and had been visited by the most important physicians of that time (L. Paganucci. *Parere intorno all'individualità dei due scheletri trovati nel mausoleo scolpito da Michelangelo e che sta a sinistra di chi entra nella celebre cappella della Basilica di San Lorenzo in Firenze*, Firenze 1875).

Berengario da Carpi, the famous surgeon who was called to visit Lorenzo, dedicated him his treatise On Fracture of the Skull (*De Fractura Calvae*), which he published in 1518, where he described the different surgical operations remedies to put on the head and gives the description of the lotion used for Lorenzo:

Recipe vini salvatici lib.4 rosarum rubrarum, betonicae, pimpinellae, matrisilvae, centaureae, staechados aromaticae ana m.β: aristolochiae longe, ireos, corticum thuris, ana 3: bulliant omnia simul, usque ad duarum partium consumptionem: (sed rosae bulliant bullitione una tantum) & colentur. Colaturae adde mellis rosati optime cocti...

*Ista lotio est mirabilis in sanie exiccanda in ulceribus profundis capitis. Et haec est illa, Illustrissime Dux, quam ego ordinavi & feci manibus meis pro capite tuo: hoc liquore siringabam & interdum cum parva spongia embrochabam fundum ulceris tui capitis, a quo prius non parva saniei [Sanies (Lat.) - A thin, fetid, greenish fluid consisting of serum and pus discharged from a wound, ulcer, or fistula]. Quantitas exibat. Et ab ista lozione fuit facta saniei exiccatio & carnis repletio, & una cum aliis auxiliis tandem consolidatio (Berengario da Carpi. *Tractatus de Fractura Calve sive Cranei a Carpo editus*, Bologna Hieronymus de Benedictis 1518; Engl. Transl by L.R.Lind, Berengario da Carpi on Fracture of the Skull or Cranium, Transactions of the American Philosophical Society, New Ser., Vol. 80, No. 4 (1990), pp. i–xxvi + 1–164. XXXIX: Recipe four pounds of malmsey, a half handful each of red roses, betonica, anise, honey suckle, centaurea, stoechas, half an ounce of long aristolochia, iris, incense bark. Boil all together and reduce by a third part. Boil the roses only once and strain. To this add four ounces of well-cooked rose honey. This lotion is very effective in drying out pus in deep ulcers in the head. My most illustrious duke, this is the lotion I prepared and made with my own hands for your head, using a syringe and sometimes an embrocation with a small sponge to reach the bottom of the wound from which earlier no small amount of pus and a repletion of flesh in the wound. Along with other aids it was finally consolidated (LIND L.R. op. cit).*

Private letters moreover provide a lot of information about the purchase and selling of many substances: in 1545, Andrea Pasquale gives Pier Francesco Riccio an account of the illness and treatment of Duchess Eleonora de Toledo, reporting that she needed *olio di gherophani...cannella confetta...legno* (clove oil...cinnamon...wood of life) (ASF, Mediceo del Principato, 1171. 374. 4 Maggio 1545).

A detailed description of the illness of Cosimo I and of the medicines requested from Florence for his treatment, included 'chicken distillate' (*distillato di pollo*), which was to contain plantago and borage (ASF, Mediceo del Principato, 1175.37. 5 Dicembre 1549). Lorenzo de' Medici, who was the son of Ferdinand I, suffered of epilepsy (ASF, Mediceo del Principato 908. 365. 2 Aprile 1602).

During the Renaissance, many different substances were used to treat the 'falling sickness'. The most important of these were: copper (which had already been used by the Ancient Greeks), zinc oxide, silver nitrate, mercury, bismuth and tin, but plants played an important role from this point of view, too, in particular, castoreum, artemisia and rhubarb. As early as ancient Greek and Roman times, a resinous secretion from the scent glands of the beaver (castor sacks) was used as a remedy for the 'holy disease'; up until well

into the 19th century, this substance was widely used as a sedative and a remedy for convulsions and was to be found in every apothecary. Mugwort (*Atrtemisia vulgaris*) was commonly used as well. In earlier centuries, this was the magical cure-all. Even in orthodox medicine, mugwort was believed to be an effective remedy for epilepsy. Absinth, which has in it the amaroids from mugwort flowers, was also used to treat epilepsy.

Conclusions

The comparison between ancient literary sources, paleopathological evidence and nowadays research represents a very interesting perspective, in order to study in depth the medical use of plants in Renaissance Florence. The Medici Family fostered this research, investing many resources in arranging the botanical garden, and experimenting the efficacy of different vegetal species.