

ORIGINAL ARTICLE

Archaeological and Other Medical Materials from Georgian Museums

Abstract

Archaeological excavations have revealed diverse medical materials of the Bronze, Neolithic, Hellenistic Ages, the Roman Empire and late ancient culture period in the territory of Georgia. These materials are rich repositories of national, spiritual and material culture kept in different museums of Georgia. To show the origin and development of medicine in Georgia, it is, primarily, crucial to investigate the history of old Georgian medicine. One way to accomplish this is through finding some evidence, such as the implements found in this region. They can testify the existence and prevalence of medicine in this region. For instance, in this region, some surgical tools and dishes for preparing or keeping drugs are found which belong to mid-second millennium B.C.; or various archaeological materials/ tools, such as blood and cosmetic tools, bone instruments, such as trephine, or even some instruments for personal hygiene, and dishes with different functions are also found in this area. The other interesting point is that in Georgia, mineral waters were used for surgical purposes, confirming relics of old bath discovered in old settlements of Dzalisa and Armazi etc. (II c. BC-VIII c. AD). In Georgia, drugstores and hospitals have long been in use. Ancient Medical textbooks (11th-12th cc.) also confirm that theoretical and practical medicine in Georgia has been amongst the pioneering practices of the time. Various diseases and surgeries, as well as certain physiological, biological, pharmacological and hygienic concepts, are widely explained in these books. There are numerous materials of medical heritage housed in different museums of Georgia which have to be analyzed and worked on systematically. They will greatly contribute to the history of Georgian as well as modern medicine.

Key words: Georgian Medicine, Medicine, Archaeology, Manuscript

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Introduction

The history of Georgia began with the rise of the early Georgian states of Colchis (West Georgia) and Iberia (East Georgia), which formed the Georgian civilization in 1000 BC., culminating in its renaissance in the twelfth through thirteenth centuries. According to the Greek mythology (Apollonius of Rhodes, *Argonautica*, III c. BC), Colchis (Greek name *Kolkhis*) was a fabulously wealthy land situated on the mysterious periphery of the heroic world.¹ Here in the sacred grave of the war god Ares, Colchis King Ayet (Aeëtes) hung the Golden Fleece until it was seized by Jason and the Argonauts with the help of Medea, the daughter of King Ayet. Apparently, Medea's sorcery made Jason strong and powerful, hypnotized the dragon, which guarded the Golden Fleece, and helped the Argonauts to take it away from Colchis. Many historians and scientists connect her name to the emergence of a term "medicine". Different kinds of herbs grown in the garden of the mythical Medea and their extracts were used for the preparation of different medical substances and sometimes even magic drugs and poisons. A German botanist and physician, Kurt Joachim Sprengel (1766-1833), in his book "Pragmatic History of Medicine" elaborated on this issue and "identified 36 medical herbs from Medea's garden used in different substances by the Colchian princess".² Ancient Georgian doctors were familiar well with both medical and poisoning properties of plants, animals and minerals. Archaeological excavations revealed rich and diverse material remains of the Bronze, Neolithic, Hellenistic Ages, or those belonging to the Roman Empire and late ancient culture period in the territory of Georgia. Furthermore, ancient settlements, tombs and unique archaeological artefacts clearly confirmed the presence of highly developed agriculture and livestock in Colchis.³ The issues of health and pathology, the art of treating diseases practiced in Georgia have always attracted the attention of many researchers.

Ancient Medical Materials in Georgian Museums

Important sources of information about old Georgian medicine come from the materials found in the archaeological excavations in the area of Georgia. The materials mostly belong to the Bronze Age, when the culture and agriculture of Georgia have been at the peak of their development. Studying on the osseous materials, surgeon tools, dishes for preparation and keeping drugs have attracted the interest of medical history researchers and significant work has been done on them. These materials, kept in different museums of Georgia, are rich repositories of national, spiritual and material culture monuments (Georgian National Museum, Dusheti and Bolnisi Local Museums, Gori Ethnographical Museum, the Great Mtskheta Archaeological Museum-Reserve, Stepantsminda Local Museum, etc.). In the medieval period, churches and monasteries were especially considered as depositories of the cultural monuments in Georgia and museum-type institutions in Georgia have housed hundreds of monuments. Among these, notable are materials reflecting the journey of Greek geographer Luscious Flavius Arian (ca. AD 86 - 160) in the countries located around the Black Sea. According to his "Circumnavigation of the Black Sea (*Periplus Ponti Euxini*), visitors of Colchis can see the statue of goddess Rhea, remains of Argonauts ship Argo's anchor and other materials.^{4,5}

Today, there are more than 240 museums in Georgia. Most of them are

- 1- Apollonius of Rhodes, 1975: 36-47
- 2- Shengelia, 2008: 3
- 3- Lordkipanidze, 1986: 24-56
- 4- Karaia, 2008: 105-113
- 5- Shengelia, 1980: 18-45



historical, ethnographical and local museums, preserving and exhibiting unique collections of natural, human and cultural history. Among them are archaeological materials and other things which clearly reflect historical trajectories of development of old Georgian medicine and traditional methods of treatments. The Museum of Georgian Medicine History also exhibits the educational base of Tbilisi State Medical University. Old medical manuscripts, archaeological artifacts, anthropological materials, private archives of famous Georgian medics, rare literature of medicine are kept in this museum (nowadays the museum is under construction and will be opened in 2013). The museum is named after the famous Georgian medic, Professor Michael Shengelia, the author of numerous books about the history of medicine.⁶



Figure 1. Drug utensil with image of snake. Bronze, 2nd millennium BC. Georgian National Museum

Archaeological Medical Materials

Among the archaeological materials discovered in many regions of Georgia (Kakheti, Shida Kartli, Samegrelo-Zemo Svaneti, Ajara, Racha-Lechkhumi and others), several images of snake are found on dishes (figure 1), which have attracted the attention of a number of researchers. For example, the archaeologist, Boris Kuftin, links two dishes with snake images from Trialeti (mid of II millennium BC.) to the cult of water and agriculture.⁷ The other archaeologists, drawing on the ethnographical approach, infer that snake image on dishes from Ancient period in Aramaziskhevi (Mtskheta) have had the magical function and two-storey clay dish (8th-6th BC.) with relief snake have been used for the preparation of drugs (In Svaneti's ethnographical life is special "Two-storey dish" for boiled drugs.⁸ The handles of the dishes discovered in archaeological excavations of Kakheti (East Georgia) resemble the snake image but in Mtskheta are discovered golden and bronze rings with gems bearing the image of Asclepius – the god of medicine. Similar rings are discovered in Urbnisi (Kartli region) and in other places; the researchers have speculated that doctors used to wear the same rings. Given the traditions drawn on legends and ethnographical life of ancient Georgia, the snake is closely connected to medical activities; even today traditional healers connect their knowledge of medicine to the snake in Svaneti, a mountainous region in Georgia.

6- Shengelia, 2003: 39

7- Kuptin, 1941: 34-69

8- Burduli, 2000: 117-23.





Figure 2. Jug with image of the Aries head. 1st-2nd cc. AD. Ajara State History Museum

One of the most widespread motives on many archaeological materials (from Abkhazia, Tsalka, Kazbegi and others), which are housed in Georgian museums, are images of Aries head (sheep or sheep's head) (figure 2). It was, then, speculated that Aries head on clay dishes, sarcophagus, amulets and other articles could protect them from casters. There are certain scientists who think that in ancient time such images mainly had the apotropaic function; there are some other researchers who think that Aries head and snake images have similar functions. It is noticed that the tradition of sculpting the images of sheep on grave stones and churches in Georgia was prevalent up to the middle Ages and continued till the 19th century as well. Even today, in Georgia it is common to sacrifice sheep as a cultic animal in order to protect Saint George from casters. Sculptural images of snakes and of sheep or sheep's head are found on facades of Georgian Christian churches (Ananuri fortress church, XVI-XVII cc., Phitareti church, XIII c., etc., figure 3) and on different Georgian cultural heritage, as well (figure 4).



Figure 3. Left: Image of the snake. Ananuri fortress church, façade. 16th-17th cc. AD; Right: Image of the Aries head. Phitareti church, façade, 13th c. AD.

Amulets of various forms, as a protection symbol against incubus, are plentifully found in archaeological excavations in Georgia. For example, in village Melaani (Kaheti region) – 12 amulets were found, belonging to the first half of the first millennium B.C.; or in Mtskheta in one of the richest burial site of Armaziskhevi, eight transparent ribbons of gold with “Armazi” inscriptions were discovered. These inscriptions, according to scientists, are magical text – incantation (figure 5).





Figure 4. Pendant with Aries head. Brill (Racha region), first half of the 2nd millennium BC, bronze, Georgian National Museum



Figure 5. Left: Amulet with Aries head. Armaziskhevi burial, gold, amethyst, garnet, glass paste, L33 cm, D of a case 6-2 cm. 2nd-IIIrd centuries AD. Georgian National Museum; Right: Amulet (hog). Armaziskhevi burial. 2nd-IIIrd centuries AD, gold. Georgian National Museum

The surgical tools or dishes for the preparation or keeping of drugs, belonging to the middle of II millennium BC, can reveal the status of Georgian medicine. The bronze knives, tweezers, blood tools and other things (figure 6) found in archaeological excavations were the common medical tools of the day, some of which were particularly used in surgical practices⁹. Using bronze knives for operations as well as bony materials was documented in a number of sources belonging to the related period. Studying trepanised skulls, in particular, showed a high level of surgical practice performed during that period.



Figure 6. Cosmetic instrument, Tétrtsklebi (Kakheti region), Bronze, Late Bronze Age, Telavi History Museum

9- Ibid



In Mtskheta, in some burials of Samtavro, a number of glass were discovered, some of which were used for ointments and medicaments. According to Medical scientists, in one of the burial sites, they found a large number of such dishes, confirming that these burial sites belonged to drug-maker. It was also deduced that that drug making, at that time, was a well advanced profession. According to ethnographical material, Georgian traditional physicians had dishes for drug preparation (clay, cast-iron) and some others for keeping medicines (wood, cattle horn). In Mtskheta, the discovery of old Georgian hand balance and small Libras, glass flask, kohl-tubes-- on which Georgian patterns as well as those from Syria, Iran, etc. were found (figures 7) liquid medicine, dosage forms (I-III cc.), clearly demonstrated the pharmaceutical activities.

10- Pirpilashvili, 1959: 377-394



Figure 7. From left to right: Kohl-tubes. Mtskheta burial. glass. Syria. 1st–2nd cc. AD. The Great Mtskheta Archaeological Museum-Reserve; Scent Bottle. Vani archaeological excavation. Silver, Colchian, 4th-3rd BC. Georgian National Museum; Cauldron. Bronze, cast, height: 20 cm, Iran, master: Abu Bakr ibn Ahmad Marvazi, 12th - 13th cc. AD, Georgian National Museum

By roentgen-pathological analysis, the scientists estimated the possible age of old man and the constitutional features, the antiquity and frequency of pathological processes and their pathological geography, the duration of disablement, quality and condition of old medical technique (Prof. Pavle Pirplashvili¹⁰ studied skull of 10th-5th cc. B.C., which had signs of trepanation). Apparently, in ancient Georgia, different traumas, fractures were treated using sharp tools (for this purpose bone materials of 13th-1st centuries BC were studied): Georgian traditional healers – “Dastakaris” (Khevsureti) and “Aqimis” (Svaneti) successfully treated various traumas. Adding archaeological material to the ethnographical material vividly showed the historical development of ancient Georgian medicine.



Figure 8. Bath complex (Settlement Dzalisi). 2nd c. BC - 8 c. AD.



Among the various archaeological materials housed in Georgian museums, there were certain articles used for the personal hygiene and dishes for different functions. What was interesting to researchers was that in Georgia mineral waters were used for surgical purpose even in the period of slave-owning regime (6th c. B.C. and 5th AD.). This confirms the relics of old bath discovered in Dzalisi settlement (II c. BC-VIII c. AD, figure 8), Borjomi, as well as Armazi bath in which mineral waters were used. During that period (3rd-4th cc. B.C.), in the burial sites of Akhaltsikhe, Ksani gorge, Kldeeti, Armazi, Ureki, Vani (2nd-4thcc. B.C.), as well as the relics of communal buildings anhis complex, sanitary and hygienic techniques, some articles were discovered, giving witness to the issue discussed above.¹¹ Furthermore, it was found that people at that time enjoyed a high living standard and accordingly maintained a high hygienic culture. Pharmacology has been known in Georgia since ancient times. Concerning drugstores (house of medicine), a lot of information, especially during hardships, was found, demonstrating the long-time functioning of drugstores in Georgia. This was observed in the remains of the big complex- cave city of Vardzia (now Historical-Architectural Museum-Reserve, figure 9), built in 12th-13th centuries on the initiative of Georgians King Tamar (1160-1213).

11- Japaridze, 1981: 45-60



Figure 9. Vardzia cave complex. 12th-17th centuries, Vardzia Historical-Architectural Museum-Reserve

It had several thousand rooms, but after an earthquake just several hundred of them have been preserved. The city had its water supply system, sewerage, hospital and chemist's, the latter is fully preserved. On the initiative of Tamar's royal court a fine review of Arabian medicine was compiled, "Book on Medicine", denoting the existence of Georgian medical school as well. In the complex, there were several halls devoted to making the medicaments (with more than 220 niches, figure 10). There was also a unique monument- Uplitsikhe Historical-Architectural Museum-Reserve-, belonging to the first millennium B.C. (2 rooms with 28 small niches for keeping ceramic, porcelain and glass dishes) – this testifies the existence of drugstores. The word "Apotiki" (comes from



the Latin word “Apotheka”) was found in the written sources of Monastery of Iveron - Mount Athos “Life of Ioannes and Ekvtime”, the work of Giorgi Mtatsmindeli.¹²

12- Shengelia, 2008: 2

13- Surguladze, 1993: 35-61



Figure 10. Vardzia cave complex, Niches for medicaments, 12th-17th centuries, Vardzia Historical-Architectural Museum-Reserve

Ethnographical Materials and Ritual Artefacts

From the time of antiquity, mainly because of lack of knowledge, it has been a common practice to relate diseases, especially those with unknown causes, to the supernatural world.

This is mostly drawn from Svaneti (West Georgia), according to which “sickness by Svanetian people was a reward to sins against worships”. To avoid these sicknesses, family members were recommended conduct religious rituals for the surgery of sick people (some of them are still seen among people), complying gods or saints in different places, ranging from home to the place of worships, or beside “Saint trees” (basically oak and linden-tree). Enacting such rituals under or near saint trees is deeply rooted among Georgian people.

According to ethnographical documents recorded in village Gomareti in Dmanisi, sick people were moved by cartload to the oak-tree. Irakli Surguladze held that, “according to Georgian imagines, the tree is covered by power of life” and ... “Svetitskhoveli” means the pillar of life, i.e. “tree of life”.¹³ Hence, one can understand the reasons behind the images of the tree of life found on bronze belts as well as other artifacts (figure 11).



Figure 11. Left: Cup. Silver, Trialeti burial, the beginning of 2nd Millennium, Georgian National Museum; Right: The scene of serving the ritual cup to supreme god. Trialeti burial, silver, the beginning of 2nd Millennium, Georgian National Museum



It is interesting to point out that in different districts of Svaneti the days of god for treating different sicknesses used to be different. There used to be rituals held yearly for different sicknesses: days for head, eye, rheumatic deceases in winter; Paediatrician sickness in spring; gastric problems i.e. “pain of stomach” in summer. Now, there are narrative materials of rituals in National Centre of Manuscripts and in other museums. They are significant in regard to studying medical and treating rituals.

Ancient Medical Manuscripts

Georgian traditional unites empirical and traditional medical knowledge. Medical manuscripts (11th-12th cc.), available today, confirm that theoretical and practical medicine in Georgia was on the front level of cultural world of that period. In the Georgian National Centre of Manuscripts are housed medical manuscripts and books (common name – *Karabadini*), which once again give evidence to the old Georgian medical culture. Among them are: *Ustoro* (wrong) *Karabadini* by Kananeli (11th c.), Saaqimo (doctor’s) *Karabadini* by Khojakofili (13th c.), *Iadigar-Daudi* by David Bagrationi (16th c.), 18th century’s manuscript of *Karabadini* - Medical book by famous Georgian medic of the 15th century - *Zaza Panaskerteli-Tsitsishvili* (figure 12).



Figure 12. Left: *Zaza Panaskerteli-Tsitsishvili* (famous Georgian medic of the 15th c.). Fresco, 17th c. *Vardzia Historical–Architectural Museum-Reserve*; Right: *Karabadini* (Medical book). 18th century’s manuscript by *Zaza Panaskerteli-Tsitsishvili* (15th c.). *Georgian National Centre of Manuscripts*

In addition, analogical sources (*Book about truth and treatment* by Ioane Batonishvili, *Short Karabadini or admonition for easy treatment of variety internal and ostensible diseases* by Petre Klapitonashvili, XIX c., etc.) from other museums and depositories (Georgian National Archive, Kutaisi State Historical Museum etc., figure 13) cover all medical issues of that time (figure 14). Various diseases, their surgery and features are widely explained in these books; In addition, physiological, biological, pharmacological and hygienic concepts are included in the manuscripts. Furthermore, in Georgian National Centre of Manuscripts are housed 342 manuscripts and several manuscripts not completely related to medicine, but containing some paragraphs about medicine among them are Arabic, Persian, Turkish, Russian, Armenian, Greek, French, German, English manuscripts, as well. In Georgia, we can meet veterinary manuscripts from 17th century (on horse, dog and birds), which are written and trans-



lated mostly by the King of Georgia Vakhtang in the 6th, and Ioane and Bagrat Batonishvili – the sons of King Giorgi in the 12th century. Beside the Georgian national surgery methods, there are principles of national medicine derived from other countries which had close connection to Georgia such as Greek-Roman, Persian, Arabic and others Generally, because of the geopolitical situation of Georgia, Georgian life was under the influence of the ancient traditions of the close and far neighbors In the National Centre of Manuscripts there are more than Persian 500 medical documents: firemen, deeds of purchase, arsis, with resolutions by Iranian shahs, Georgian kings and other state officials. The documents are dated to the 16th-19th centuries, when the influence of Persia was particularly great).



Figure 13. Karabadini (Medical book). Manuscript of 70ies of the 19th c. Gori Ethnographical Museum



Figure 14. Karabadini with explanation inscriptions (for horses), 19th century's manuscript, Georgian National Centre of Manuscripts

First Hospitals and Special Places

In the early Feudal period (6th-10th cc.) there was highly developed medical services provided in poorhouses and asylums, hospitals, medical and cultural hals in royal and merchant cities, cities of feudal and church-cultural centers. Georgian hospitals were were in practice as early as the 5th



century in Georgia and outside of Georgia: monasteries of Tao-Klarjeti (today Turkish territory), Georgian lavras of Sabatsminda in Jerusalem (here worked famous Georgian scholar and theologian figures, such as Ilarion Kartveli, X c.) and Petritsoni (Bulgaria), where since 11th century several hospitals were built, including leprosies – specialized hospital for lepers. The greatest representative of the Georgian Kings David IV, Aghmashenebeli's (the Builder, ruled in the 11th-12th centuries) area of activities was wide scale, but medicine occupies a special place. David Aghmashenebeli founded Gelati Academy in which, as well as establishing a hospital, medicine was expected to be taught David who was endowed with high Christian morals; visited the patients, took care of them and assisted them. David was assisted not only by his generosity but by fundamental medical education. He invited Ioanne Petritsi and Arsen Ikaltoeli (great anatomist), Greece, who left a greatest trace in Georgian philosophical and medical thought.

In 13th-15th centuries, Georgian political-economic and cultural life was adversely affected by permanent invasions. This epoch in the medicine history is named as break-up period. In the renewal period (16th-18th cc.), the improvement of political and economic life led to the renewal of medicine activities and its development. Since 16th-17th centuries, Georgian medicine influenced European medicine in the methodology of terminology, diagnostics and surgery. But the renewal period basically was the renewal of the old Georgian medicine focused on the medical and literature activities (in this period were created *Treatment recipes*, *Abridged sanity*, *Kalmasoba* – big encyclopedic work of Ioane Bagrationi, containing medical texts). In the next epochs – 19th century – Georgian medicine was characterized as the development of medical and sanitary services and pharmacy, taking measures against the epidemic, using the resorts of the country and traditional medicine. Later in the 20th century was found the medical faculty at Tbilisi State University.

Conclusion

In the materials of medical heritage housed in different museums of Georgia, are still remained numerous documents and medical heritage for researchers to work on. Most of them, contributing greatly to the history of Georgian medicine, have to be analyzed systematically and classified. This will enrich the modern medicine.

References

- Apollonius of Rhodes. *Argonautica*. Tbilisi: "Metsniereba". 1975. [in Georgian]
- Burduli M. The ancient Georgian medicine by archaeological materials. Tbilisi: Akhaltsikhe Branch of Tbilisi State University, collected works II. 2000. [in Georgian]
- Japaridze N. Bronze epoch of Goldmithery in Georgia. Tbilisi: Metsniereba. 1981 [in Georgian]
- Karaia I. მუზეონ-მუზეონი-Museion-Museum (For definition of the term "Museum"), magazine *Spektri* #1, Tbilisi: GMA (Georgian Museum Association). 2008. [in Georgian]
- Kuptin B. Archaeological excavations in Trialeti, book I. Tbilisi: Metsniereba. 1941. [in Russian]
- Lordkipanidze O. *Argonautic and Ancient Kolkhis*. Tbilisi: Metsniereba. 1986. [in Georgian]
- Pirpilashvili P. [Some issues from the history of Georgian folk Medicine]. *Bulletin of Georgian Science Academy*. 1959; 23: 377-394 (N3). [In Georgian]



Shengelia M. History of Georgian Medicine. Tbilisi: Ganatleba. 1980 (in: GM. Medicine and Tradition of Georgia Royal Court, collected works: Scientific and Cultural Legacy of the Bagrations. Tbilisi: Ganatleba. 2003 p. 39 [in Georgian]
Shengelia R. From Medea to Mithridate. Magazine Tanamedrove medicina, 2008; 2: 2; available at: <http://www.modernpublishing.ge> [in Georgian]
Surguladze I. Symbolic of Georgian ornaments. Tbilisi: Metsniereba. 1993 [in Georgian]

