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Chronic Pain Management in Roman Coloniae

Valentine J Belfiglio*

Texas Woman's University, Denton, USA

Abstract

Upon completion of twenty years or more of active military service, Roman legionnaires received financial benefits from the Roman State and free plots of land in Italy or Roman conquered lands. These outposts in Roman conquered territory served as a buffer between the Roman State and potential Roman enemies, helped to suppress insurrections in the territories they occupied and helped to Romanize these territories. The coloniae varied in size and population from a few hundred to several thousand people. Adequate medical care is indispensable to the survival and prosperity of any community of people. The larger coloniae had hospitals and health care professionals to support the colonists living there. Smaller colonies had a medical clinic with a smaller staff. Managing chronic pain suffered by ranchers and farmers was a major concern for the medici (physicians) who lived and worked in the coloniae. The veterans and their families sometimes required pain management for their functionality and quality of life.

Keywords: Veternan; Pain; Analgesics; Neuralgias

Introduction

The retired Roman soldier "Wept o'er his wounds, or tales of sorrow done, Shouldered his crutch, and showed how fields were won." Oliver Goldsmith (1728-1774), the Deserted Village, I.155.

Upon completion of twenty years of active military service Roman legionnaires received veterans' benefits from the Roman State. These benefits included 12,000 sesterces in severance pay and plots of land in Italy or Roman conquered lands in territories known as coloniae (colonies). Elite soldiers and officers received a higher severance pay. For example, members of the Praetorian Guard received 20,000 sesterces after 16 years of service [1]. Veterans could build homes for their families and use the property as a farm or ranch some colonies engaged in mining, fishing or manufacturing items such as pottery. These properties were exempt from taxation [2]. In addition to the economic benefits the coloniae served as a selfhelp counseling environment in which veterans could deal with problems associated with the stress of war and military service. There were advantages to the Roman Empire as well. These veterans could serve as a reserve force to help suppress insurrections in or near their colonies. They also served as a buffer between hostile regimes and the Roman State and helped to Romanize the lands they occupied. Each veteran received about 65 acres of property [3].

The size of the colonies varied with the number of settlers. The number of veternans including their families could average 10,000-30,000 people. All colonies received water supplies through rivers, streams, aqueducts and wells. An urban area within the colony provided specialized services and amenities to the farmers and the residents of the urban area. There were blacksmiths, cobblers, salespersons of various products, capenters, plumbers, dining areas, physicians (medicii) and veterinarians (veterinarii). Urban centers featured basilica, curia, temples, forums, public baths, paved streets,drainage channels, monuments, theatres and amphitheatres, circuses, brothels etc. The colony was governed by a praefectus and several other administrative, legislative and judicial offices. A praetor governed the capital of the colony [4]. All decisions by colonial administrators were subject to Roman law, and subordinate to the laws and decrees of the Consuls, praetors and Roman Senate [5].

The main purpose of this article is to demonstrate that Roman physicians developed techniques in chronic pain management that were the forerunners of modern physicians with specialties in Pain Medicine. The use of analgesics was an important element of this treatment. The key questions examined in this paper are: did Roman medici evaluate treatment options for chronic pain management to make appropriate therapy recommendations and did they design therapeutic plans for patients with chronic pain using patient specific data. Critical source information is extracted from Greek and Roman historians, physicians, Roman artifacts, monuments, paintings, archaeological discoveries, and attention to modern secondary sources. The main inference is that Roman medicine and use of analgesics was superior to the medicine and use of analgesics practiced by most other people of antiquity. Some armies, particularly Greek and Egyptian, developed techniques for use in pain management medicine.

The key concepts to understand in this article are "immediate medical care," "pain management medicine" and "analgesics." "Immediate medical care" means care rendered soon after an injury by caregivers and hospitals. "Pain Management medicine" means medical assistance for "sudden or slow onset of pain of any intensity. From mil to severe, constant or recurring without anticipated or predictable end and duration of greater than 6 months "Analgesic" is a drug that relieves pain [6]. The main assumption is that without the role of excellent pain management and other medical care of Veterans, the Roman Empire could not have forged and maintained hundreds of colonies which provided a valuable asset to its survival. Following this line of reasoning, the implications are a better understanding of Roman successes in establishing an empire. Failure to take this line of reasoning seriously, leads to a lesser understanding of Roman military success in establishing an empire. The main point of view presented in this article is that the use of analgesics by medical personnel in the colonies and at field hospitals located in the urban capitals of the colonies was an important aspect of providing immediate care to Roman veterans after injuries or other causes of chronic pain.

***Corresponding author:** Valentine J Belfiglio, Texas Woman's University, Denton, TX 76204, USA, Tel: 940-898-2144; E-mail: vbelfiglio@twu.edu

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There were two major periods of Roman medicine. From 753 B.C. until 27 B.C. medical practices were primitive and combined with theological beliefs. Romans offered intercessory prayers to several deities. Among them were Apollo, Bona Dea, Febris and Endovelicus. Verminius was a god who protected horses and cattle from diseases [7]. Many people of faith continue to pray for good health. This is especially true of Christian scientists, who believe that sickness is an illusion that can be corrected by prayer alone [8]. Medical science continued to evolve throughout Roman history. It reached its zenith during the life of Claudius Galenus (Galen) (A.D. 129-200) and this article focuses upon this period of Roman medicine. During his period Roman standards of public health and hygiene surpassed medical advances as the Romans correctly believed that it was better to maintain health than depend on medical cures. The Romans learned the medical techniques of people throughout the Empire and applied them in the treatment of patients. Foremost among them were the Greek physicians, such as Hippocrates (460-370 B.C.), but also Egyptian physicians. Thus ancient Roman medicine was derived from Greek medicine and the colonists were assisted by medical practices and superior hygienic conditions.

Primary Sources

Aulus Cornelius Celsus (first century A.D.) who wrote a study of medical techniques and medicine [9]. Pedanius Dioscorides (A.D 40-80) who compiled an extensive materia medica of drugs and other substances used in medicine [10], Claudius Galenus (AD 129-ca.205) compiled a systematic approach to medical procedure [11], and Flavius Renatus Vegetius (4th century A.D.) who discussed sanitation and hygiene at military encampments and preserving the health of soldiers [12]. Theodorus Priscianus (4th century A.D.) wrote a study about skin diseases and wounds [13] and Quintus Gargilius Martialis (3rd century A.D.) specialized in dietetics, including foods useful to helping wounds heal and those possessing analgesic properties. Pliny the Elder (A.D. 23-79) recorded on science, agriculture and medicine [14]. Scribonius Largus (A.D. 1-50) created a list of 271 prescriptions used by medici throughout the empire [15].

Major Causes of Chronic Pain

Ancient Roman veterans and their families suffered from chronic pain for the same reasons that veterans and non-veterans suffer from chronic pain today. Some common causes are nerve damage and injuries that fail to heal properly. These injuries were often sustained on the battlefield when the veteran was on active duty or on the farm of ranch while the veteran toiled to raise crops or livestock on coloniae. The causes of chronic intractable pain have many causes, including carcinomatosis; invasion or compression syndromes due to cancer; mental illness; neurological disorders such as neuralgias, phantom limb pain, nerve entrapment syndromes, spinal cord damage, myofascial syndromes or thalmic syndrome pain [6].

In many cases the source of chronic pain can be complex and difficult difficult to diagnose. Some kinds of common pain have numerous causes. Signs of common pain include sleep disturbance, irritability, appetite disturbance, constipation, psychomotor retardation, decreased pain tolerance, social withdrawal, and mental depression. Ancient medici often had to try a number of different types of steps to cure a patient or achieve remission. Chronic pain is managed by diagnosing the underlying causes and attempting to remove it or reduce its intensity; use of drugs appropriate for the severity and type of pain; Use of noninvasive measures such as application of heat, cold, manipulation or splint, and relaxation therapy [6].

Pain Management at the Veteran's Homestead

Medici often visited sick or injured veterans and their families at their homresteads. There were advantages to the physician and patient to these visits. The visits provided a unique perspective on patients' environment and health problems. Homestead calls sometimes reduced hospital admissions and re-admissions. Common indications for homestead visits were management of acute or chronic illnesses, and palliative care." In addition to peforming a clinical assessment Homestead visits involved the observing of patients performing daily activities, reconciling medical discrepancies, and evaluating homestead safety. Homestead calls were often clustered by geographic location except in emergencies. Medici rendered advanced aid to wounded patients. They carried leather pouches containing medications for agitation, dehydration, dyspnea, heart failure, pain, fever, counterirritants and seizures. Examples are: dried aloe for use as an anti-hemorrhagic, "acetum" (vinegar) for use as an antiseptic, and henbane seeds (Hyoscyamus niger) in an ointment prepared with wool fat (lanolin) and small amphora containg a draught of opium or mandrake for pain. They also carried bandages made of linen and wool. ("absus") If the wound or illness was mild, the patient would return to work in the fields in a few days. If the wound or illness was serious the medicus could suppress bleeding with a tourniquet, give preliminary treatment for the illness, and evacuate the patient by stretcher and wagon pulled by horses to the hospital ("valetudinarium"). Although "valetudinarium" is usually translated from the Latin as hospital, it could also represent a medical clinic established at the capitol of the colonia [16].

Spine and disc problems and joint pain were common ailments suffered by ranchers and farmers working in coloniae. The medici recommended a variety of exercises to help mediate against chronic pain caused by activities associated with farming and ranching. Pelvic tilts, hamstring stretches, partial sit-ups, hip stretches, wall slides and press-ups helped manage spine and disc problems. Bilateral ankle dorsiflexion, calf raises, gastrocnemius stretches, heel slides, long arc quads, seated dorsiflexion, seated and standing knee flexion stretches, straight leg raises and other exercises helped manage chronic knee pain [12]. There were a variety of other exercises prescribed for other parts of the body. The quality of the patient caregiver was an important consideration.

Pain Management in the Hospital

The average colonial hospital occupied an area of 6,000 square feet and could accommodate between 250-500 patients. In the event of epidemics, tents could be set up near the hospitals. Every hospital had wards, a surgical suite, corridors, administrative offices, dining hall and drainage system. The valetudin ariae (hospitals) served infirmaries in most cases. However, they could administer herbal, mineral and physical regimens to address pain, including surgical procedures. There were lavatories, kitchens, baths, and storage rooms for medical instruments and medical herbs. The bath area was also used as an exercise area. Medical herbs were grown outside the hospital in a garden area reserved for that purpose. Every hospital had a number of physicians, including specialists, nurses, orderlies and other staff. Pain medicines and other forms of medication were prepared by "seplasiarius" (a pharmacist specializing in the preparation of administered drugs). The "medicus primus" (chief medical officer) was in charge of the hospital and its personnel.He reported directly to the praefectus of the colony.The "optio valetudinarius" (hospital executive officer) and "optio convalescentium" (physician's assistant in charge of

convalescence) were subordinate to the "medicus primus" in all medical decisions [17]. There was no clear distinction between chronic and acute pain so treatments were based primarily on the intensity of pain.

Non- Pharmacological Treatments for Pain in Hospitals

The "Optio Convalescentium" employed a number of techniques for soldiers suffering from mild to moderate pain. Ice packs (when available) or frigid water would decrease swelling and pain. Hot baths could also decrease pain and muscle spasms. Massage and exercises of gradually increasing intensity could help restore the use of injured joints and muscles [16]. Aquatic, aerobic and/or resistance land-based activities are popular, weight loss in obese or overweight patients, and joint protection modalities as canes and braces were used. Certain foods contain alkaloids with pain reducing capabilities. The "optio convalescentium" in consultation with a "medicus" ordered meals from the kitchen for wounded soldiers depending on their overall physical conditions. The first priority was to serve sufficient calories from a balanced diet of nutritious foods. Diets usually included protein, fruits, vegetables, dairy products and grains [11]. Beverages included water, fruit juices and tea. The "medici" knew from experience that some foods helped to relieve pain. Examples are cherries (Prunus cerasus) mint (Mentha spicata), and other herbs had this ability [18].

Pharmacological Treatments for Pain in Hospitals

Pain can be classified as mild, moderate or severe. Mild pain is nagging, annoying and interferes little with activities of daily living. Veterans and their families with mild pain could be treated with non-pharmacological intervention and the use of a local anesthetic such as henbane seeds (Hyosyamus niger) comined with opium in an ointment prepared in wool fat (lanolin). Broadleaf plantain (Plantago major) provided another form of local anesthetic. The powdered bark from the white willow tree (Salix Alba) could be used to treat inflammation and fever Willow bark was often combined with powdered Turmeric (Curcuma longa) in the treatment of osteoarthritis. Willow bark contains salicylic acid and turmeric contains curcumin an anti-inflammatory. The powdered inner bark of the slippery elm tree (Ulmus glabra) was used for coughs. Moderate pain interferes significantly with the activities of daily living [16]. These patients require stronger medicine which might include a draught of mandrake (Mandragora officinarium [19]. The legionnaires would then be referred to a ward for convalescent care. Sick and wounded soldiers were kept in separate wards. The ancient Romans knew nothing about microbiology however they knew that diseases could be passed on from one patient to another. Severe pain is disabling and patients are unable to perform the activities of daily living. Most post-operative patients were in this category. They usually required a draught of opium (Papaver somniferum) [16]. Counterirritants for external use were part of the regimen for treating chronic pain. Many counterirritants such as Aristolochia (birthwort) were prescribed by physicians for self-administration or administration by a caregiver at home to a member of a family. The root yields an irritant glucoside used in poultices. Much stronger counterirritants were administered for external use in hospitals by a medicus or nurse (nutrix). An example is Thapsia (Thapsia garganica) [11].

Conclusion

During the Roman Empire thousands of soldiers suffered injuries on the battlefield which led to chronic pain. Most of these soldiers settled in coloniae after completion of honrorable military service. They were among the few citizens who received regular pay during their military service. In addition, they received severance pay and plots of land which could be turned into profitable farms or ranches. These veterans could afford the services of physicians (medici) and veterinarii (veteriarians) for themselves, their families and their farm animals. Work on farms and ranches using the primitive techniques available at the time often led to injuries and diseases were as commonplace in ancient Rome as they are today. Therefore Roman physicians performed a valuable service in treating these veterans without whose help the coloniae could have failed.

Conflict of interest

None declared by the authors.

Authors' Contribution

VJB is the sole researcher and writer.

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