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Oral and maxillofacial surgery: The mystery behind the history



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ABSTRACT

The recognition of oral and maxillofacial surgery as a specialty is relatively new. Therefore, to understand the true history of the specialty one has to trace the development of the procedures encompassed by its scope. This article shows how this scope developed from the early stages in Egypt and Greece to the present time.

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Although one can easily define what is currently included in the scope of oral and maxillofacial surgery in the United States, tracing the specific history of oral and maxillofacial surgery as a recognized specialty does not really tell us how that scope developed because this recognition has been a relevantly recent event. Therefore, to understand the true history of what we now call oral and maxillofacial surgery one has to focus on how the various procedures now included in its scope developed and the personalities involved, irrespective of their degrees, specialty designations or countries of origin.

The earliest known mention of what is now included in the scope of oral and maxillofacial surgery occurred in Egypt in the so-called Edwin Smith Papyrus (2700 BC). This document, which contains 48 case histories written by a military surgeon, mentions the treatment of mandibular fractures with bandages obtained from an embalmer and soaked in honey and egg white [1]. It also mentions empirically treating wounds with honey and fresh meat. It is now known that honey promotes autolytic debridement and that meat contains proteolytic enzymes and thromboplastin. It is of interest that 5000 years later Medihoney® is still being used for wound debridement (Fig. 1).

The earliest documented treatment of oral diseases dates back to 1200 BC in ancient Greece. These treatments were administered

in temples known as asclepiads by priests who were followers of Asclepius, the Greek god of medicine. Although these treatments consisted mainly of herbal remedies, there is evidence that tooth extraction was also performed [2].

The formal practice of medicine, which at that time included dental treatment, actually began in Greece in the 4th century BC under the leadership of Hippocrates. He extracted teeth and treated dental abscesses. However, at that time the skill and/or proper forceps needed to readily extract teeth were apparently lacking since he recommended extracting only those teeth that were loose [3]. A firm tooth was either loosened by applying various substances to degrade the periodontal ligament, or the crown was intentionally broken off and the pulp cauterized to stop the pain.

Hippocrates also wrote of treating mandibular fractures. However, he advised using gold wire or thread to fasten together the loose teeth in the area of the fracture rather than using bandages stating: "It should be well known that, in fractures of the jaw, dressings with bandages if properly performed is of little advantage, but occasions great mischief if improperly done" (for a detailed history of the treatment of maxillofacial trauma see Ref. [1]).

Hippocrates also devised a method for manually reducing a mandibular dislocation that is still being used today (Fig. 2). It is of interest that the management of such an uncommon problem would be mentioned in his writings. The probable reason is that it was a more common condition in those days due to inept attempts at tooth extraction.

Celsus (25 BC–50 BC) was a leader in Roman medicine, building upon what had been learned from the Greek medical system. He also considered tooth extraction as dangerous, to be done only as a last resort, and cited cases of resulting jaw fracture leading to death [4]. He recommended filling a carious tooth with linen thread or

* AsianAOMS: Asian Association of Oral and Maxillofacial Surgeons; ASOMP: Asian Society of Oral and Maxillofacial Pathology; JSOP: Japanese Society of Oral Pathology; JSOMS: Japanese Society of Oral and Maxillofacial Surgeons; JSOM: Japanese Society of Oral Medicine; JAMI: Japanese Academy of Maxillofacial Implants.

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Fig. 1. Current advertisement for a honey product.

lead prior to attempted extraction to prevent crushing the crown [5]. Celsus also incised and drained dental abscesses and treated jaw fractures with bandages.

The fall of the Roman Empire and Arabic invasion of southern Europe led to the Islamic period of medicine. Among the leading practitioners of that time were Rhazes (865–923 AD), Albacasis (936–1013 AD) and Avicenna (980–1037 AD) [5]. Their expanded surgical scope included treating oral fistulae, ranulas and epuli, and doing frenectomies, as well as the management of infections, jaw fractures and dislocations [6]. They recommended that incisions for drainage of infections follow the lines in the skin centuries before the description of Langer's lines of skin tension in 1861. They adhered to the earlier advice of the Greek and Roman surgeons in doing extractions only as a last resort. Rhazes advised first using a loosening agent consisting of arsenic paste or juice of boiled frog [5].

The Middle Ages saw the gradual separation of medicine and surgery. Medicine was now taught at universities but surgery, which was considered degrading, was still learned by apprenticeship and left to lay practitioners. The latter consisted of two groups – so-called lay surgeons and barber surgeons. They were ultimately united by British parliament in 1540 and their scope of practice defined. Barber surgeons were only allowed to extract teeth and lay surgeons were not allowed to operate barbershops or shave patrons [5].

The Renaissance Period (14th to middle of 17th century) saw a further expansion of the scope of what is now considered to be oral and maxillofacial surgery. Among the premier practitioners at that time was Ambroise Pare (1510–1590) (Fig. 3), who rose from an apprenticed barber surgeon to head surgeon at the Hotel Dieu in Paris. He not only treated broken jaws, mandibular dislocation, and various tumors, but also when serving as a military surgeon, improved the management of gunshot wounds and developed a technique for the localization and removal of bullets [7]. In regard to the former, it had been believed that the major destruction caused by a gunshot was due to poisons contained in the gunpowder, and to remove them the wound had to be cauterized with hot irons and boiling oil. Pare found that these wounds could be treated successfully with less aggressive therapy consisting of egg yolk, rose water and turpentine [7]. Among Pare's other contributions was the use of ligatures instead of cautery to control bleeding. In terms of exodontia, he warned against extraction of the wrong tooth, noting that the patient often does not know which one is actually painful, and he cautioned against leaving a broken off piece of bone because it can cause fever, festering and even lead to death.

Another contributor during this period was Johannes Scultetus from Padua (1595–1645). Although Carl Partsch is generally given credit for describing the operation that bears his name in 1892, Scultetus was actually the first to describe marsupialization of a cyst of the jaw (6). In describing the procedure, he indicated that

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