

Ancient Surgeons and Dentistry

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Since very beginning the human being started the management of day-to-day happening and disease affecting the body system. Dental diseases were one of the most common problems in the community. So from the earliest times man started the efforts to treat the dental diseases, either by extraction of painful tooth or by application of medicine.

Dental practices were also closely observed by Hippocrates (Buqrat). His theory was very informative and influenced medicine for several centuries. He observed the ulcer in the mouth and gum and treated them within time to prevent from cancer. In this study Abul Qasim al-Zahrawi and some other Unani surgeons and physicians have been described in detail about the treatment of dental problems.

Introduction

Since very beginning of civilization the human being started the management of day to day happening and diseases affecting the body system. Dental diseases were among the most common problems. So from the earliest times man started the efforts to treat dental diseases, either by extraction of painful tooth or by application of medicine to relieve toothache. Hakim Ajmal Khan (1983) states 'Do not remove loose teeth in children or 5-6 years or old person, keep it in the same condition and wait to fall it spontaneously.'⁵

Babylonians believed that disease was a manifestation of Divine displeasure or the work of an evil work, which is on the body of sufferer, so the prayer may remove the disease. After development and acquiring knowledge people started dental treatment by crude drugs. It is mentioned in Papyri in vague and certain compounds were used for the loose teeth treatment¹.

Hippocrates (Buqrat): He was a close observer of clinical and painful conditions of teeth. He studied dental problems in detail. He gave the idea to treat a fractured jaw by binding the teeth together with gold wire and thus render the jaw immobile which is essential for healing. His observation on ulceration of the soft tissues of mouth and on necrosis of jaw was accurate to large extent. He advised the removal of loose teeth only and disapproved the extraction of a painful tooth if it was not loose. He was of the opinion that moving and extraction of upper molar teeth cause harmful effect on upper jaw. Instead use some medicine to fix them.⁷

Aristotle: He was in favor of extraction of teeth, for which he advised the use of forceps instead of fingers. Greek physicians carried their knowledge of medicine to Rome and through their influence much progress was made in dentistry there apart from other arts and sciences. However, it appears that dentistry had begun to be practiced at Rome before the Greek physicians reached there.

Galen (Jalinoos): Galen was the anatomist of second century. He invented dental surgical practice, which was in vogue for many years. He divided dental pain into two types 1: derived from the nerves of the tooth and 2: from the gums.

The Arab physician Zakariya al-Razi described the nature of cement for filling a cavity in an aching tooth with a mixture of alum and mastic.

Avicenna (Ibn Sina): Teeth of upper molar have multiple roots because they are suspended and their weight is against gravity. No bone is sensitive except the teeth.

He had given importance to removal of tartar from the teeth; He suggested many remedies, such as salt, burnt shells of snails and burnt gypsum and honey for teeth. He advised that they should pour few drops of oil on the head and neck and clean jaws with paste spread on cotton for application to keep the gums healthy^{3,6}.

Abul Qasim al-Zahrawi (known to Europe as Albucasis): He was a famous Arab physician and surgeon. His book *Al-Tasrif* is an encyclopedia of medicine and surgery. The volume is divided into two parts each consisting of fifteen sections. The surgical part of *Al-Tasrif* was translated into Latin as early as the twelfth century by Gerard of Cremona, which contains the following chapters related to surgery:

Cautery

General Surgery included:

1. Operation,
2. Lithotrities,
3. Lithotomy,
4. Amputations,
5. Ophthalmic and dental surgery,
6. Fractures and dislocation.

Al-Zahrawi is remembered chiefly for that part of his *Al-Tasrif*, which is on surgery. For dental surgeries he developed instruments for shaking, loosening and removing teeth. The earliest type of turnkey for extraction, dental saw, a file set of fifteen dental scrapers, small axe for correcting irregular teeth, forceps for extraction of roots, instruments for removal of portions of the jaw, Gold and Silver wires to bind loose tooth with others.

He realized that irregular or projecting teeth in women is a great problem in society and described operations for their correction^{1,2}. He described the whole procedure for dental surgery step by step.

Excision of Growth on Gums

Growth on the gums is a great problem, which requires excision.

Procedures for Treatment and Excision

You should take it up with a hook or grasp it with forceps. Cut it at its root and let the pus and blood flow out. Then put on the places either pounded vitriol or one of the absorbent styptic powders. If the growth reappears after treatment, as it often does, excise a second time or cauterize it.

Scraping of Teeth to Remove Abnormal Collection

Sometimes there are collections (tartar deposits) upon the inner and outer surface of the teeth and also between the gums, which disturb mastication and render foreign body sensation foul smell.

Procedures

1. The patient should sit before you putting his head in your lap.
2. Scrape the teeth or molars on which you discern crusts gritty substance till nothing of the substance remains.
3. There are separate tools for scraping between the teeth.

Extraction of Teeth

You should treat toothache with every device and be reluctant to extract the affected tooth or teeth. Nothing can replace the tooth when it has been extracted.

Problems: The patient thinks that the pain is in a tooth which otherwise is sound. Thus he gets a sound tooth

extracted and the pain does not relieve until the diseased tooth is also removed. We have frequently seen this happen in the practice.

Procedures

1. Cut away all round the tooth with strong scalpel until the gum is separated all round.
2. Then with your fingers or with a pair of fine forceps holding the patient's head between your knees so that he does not move.
3. Then draw the tooth straight out so as not to splinter it.
4. If it does not come out then take an instrument, gradually introduce it beneath the tooth to move it as you did before.
5. After the tooth has been extracted let the patient rinse his/her mouth with wine or vinegar and salt if the bleeding occurs from the place, which is common, then pound a little vitriol and stuff the place with it. If the vitriol does not help to stop bleeding then cauterize it.

Extraction of Roots and Broken Pieces of Tooth

Sometimes on extraction of teeth, broken roots of teeth remain behind. This becomes very painful and requires its extraction.

Procedures

1. Apply cotton wool soaked in butter for two days to soften it, then insert the tongs or forceps with Stork – bill jaws.
2. The points should be made like a file or rasp on the inside.
3. If these forceps do not help you in your attempt to extract the tooth, dig down the root and remove all the flesh.
4. After this insert the instruments that resemble a small crowbar, it has a rather short extremity and the same should not be tempered.
5. If the root comes out, that is good, if not, then get assistance from the other instruments.
6. Sometimes we get help from a forked instrument or from other instruments and appliances which we have mentioned under scraping of teeth.

Sawing of Teeth Growing on Other Teeth

The teeth growing in other than natural place give very bad appearances especially when it happens in women or slaves.

In such case you should examine if the tooth has grown behind another tooth. You conclude that if it is impossible to saw or file it, extract it.

Procedures

1. Cut the unwanted teeth down with an instrument. It resembles a small chisel and should be of Indian steel with a well-sharpened end.
2. You should spread your cutting with it over several days on account of the hardness of the tooth and also to leave other undisturbed.
3. If the tooth project in such a way as to make filing possible, use a file of Indian iron.

Interlacing Loose Teeth with Silver or Gold Wire

In case of blow or fall, loosening the upper incisor teeth, the patient cannot bite what he wants to eat fearing

that they would fall out. First treat them with styptic medicines; then bind them with Gold Silver wire. Gold is better, for Silver oxidizes, corrodes and changes. The wire should be of varying thickness in accordance with the distance between the teeth.

Procedures

1. Take the wire and run it doubled between two sound teeth either one or several until you bring your weaving to a sound teeth on the other side.
2. Then repeat your weaving back to the side.
3. Tighten it gently till they do not move at all.
4. You should tie the wire at the root of the tooth so that it may not slip.
5. After this, use scissors to cut off the two ends of the wire remaining over, bring them together, twist them with forceps and hide them between a sound tooth and a loose tooth so as not to injure the tongue and for the future leave them thus bound. But if it breaks, bind it with another wire.
6. If some teeth have fallen out they may be resorted to their place and bound as instructed.
7. Only an expert practitioner can do this.
8. Sometimes a piece of ox-bone may be carved into the shape of a tooth and place in the site from where a tooth has fallen and fastened as we have said.

Complications: Sometimes there is severe bleeding from gums after surgery which can be managed by pressure when all the procedure fail to stop the bleeding then use cautery⁷. In fact, Zahrawi developed dental surgery and turned it into a regular science.

Many basic principles of modern dental surgery were enunciated by Zahrawi. He drew clear outlines for extracting or mending teeth.

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