Stages in the development of dentistry as theory and practice

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Abstract: The paper studies the stages of formation of stomatology as an independent field with its own history of development and theoretical basis in the historical aspect..

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Dentistry, which became a separate science only in the 17th-18th centuries, has a long history: archaeologists have found evidence that even in the Neolithic period people knew how to treat teeth by drilling and filling.

The study of the history of antiquity shows that dental treatment reached great prosperity already in ancient Egypt, where it was quite prestigious. The Egyptians knew how to drill and fill, fix fallen and artificial teeth on the jaw with the help of gold wire, treat pulpitis and gingivitis. They also invented toothpaste, giving birth to oral hygiene.

Dentistry in Ancient Greece was less gentle: removal of an inflamed nerve, for example, was carried out by burning it with iron. However, the Greeks already in those times had a kind of anesthesia, for which they used the smoke of bilberry; to them we owe the method of splinting the jaw in fracture and dislocation, used with improvements in our time. In the writings of Hippocrates we can find recipes for the treatment of many oral diseases with herbs.

The common problem of dentistry in the ancient world was the high cost of treatment: prosthetics in the times of ancient Rome was affordable only to wealthy people (but used for it as teeth made of precious metals, and the teeth of the poor). The rest of us had to have our diseased teeth extracted.

A turning point in the history of dentistry was the experience of Archigenes, who opened the pulp chamber of a tooth with a drill in the first century BC. At the same time, Claudius Galen described the differences between pulpitis and periodontitis studied by his own example. But until the 17th century, these discoveries were not universally used for dental treatment.

The Middle Ages was a dark time for dentistry because people, influenced by the Church, prejudice and superstition, saw toothache as God's punishment and

considered it a sin to treat it. Tooth extraction was the main method of getting rid of pain at that time, and they were extracted at a fairly young age.

And only wealthy citizens had access to all the possibilities of dentistry, which continued to develop: drilling of teeth and filling with gold, strengthening of loose teeth, prosthetics, treatment of gums, etc.

The birth of dentistry as a branch of medicine is dated to the 17th-18th centuries and is closely associated with the name of Pierre Fauchard, the court physician of Louis XV. It was he who, by royal decree, became the first dentist surgeon.

Having treated the teeth of the king himself and the most prominent politicians and public figures of the era, Fauchard described some 130 diseases in his Treatise on Teeth, where he also laid out an organized system of all sections of dentistry. He was an innovator in treatment methods and the creator of new dental instruments that made the work of doctors more precise and efficient: a system of lenses and mirrors for illuminating the working area, plates for aligning teeth, fillings, post teeth, complete removable dentures, gold crowns colored to match the natural color, and much more.

Pierre Fauchard is the first denture surgeon and the progenitor of modern dentistry. Fauchard's contribution to the development of prosthodontics and the training of specialists is invaluable: it was he who, by founding the first prosthodontics workshop, initiated the training of dental technicians. The jewelers who came for training passed an exam at the end of it. This can be considered the beginning of specialized education in dentistry. Thanks to Fauchard's example, the first schools for dental technicians were opened in Europe. Now attestation is mandatory for all dentists, regardless of specialty, and is carried out upon graduation from a university or secondary school (primary), after residency or professional training (primary specialized), as well as to confirm skills and knowledge (periodic).

In his work "Surgeon Dentist or Treatise on Teeth" Pierre Fauchard described 130 diseases and systematized the sections of dentistry

At the end of the 17th century, Cornelius Solingen used a hand-held bur for drilling carious cavities. And at the beginning of the 19th century, the first drill was created: in 1864 - by Englishman J. Harrington. However, his drill was too inconvenient and worked from the factory, like an alarm clock, not longer than two minutes. And in 1871, James Beall Morrison created the first foot-powered drill, which almost instantly won the recognition of dentists.

The invention of the dental chair, which allows the height of the seat to be adjusted and is not afraid of antiseptic treatment, was another important step in the development of dental science.

In ancient times, carious defects in teeth were sealed with pebbles. Later, wax, resin and mastic were used for this purpose. Ancient Roman physician Aulus

Kornelius Celsus in the I century A.D. recommended to remove the defect with a piece of slate wrapped with wool, cloth or lead plate. The Roman physician Claudius Galen (II century AD) suggested scraping off black areas with a file and filling the cleaned cavities with lead. It is believed that it is from the Latin word "plumbum" - lead - that the term "filling" originated.

In the fourteenth century, the Italian physician Giovanni di Arcoli began filling a cavity in a tooth with gold foil. Frenchman Pierre Fauchard recommended using tin and lead in the form of foil. Auguste Tavaux proposed a filling material consisting of silver filings and mercury called silver paste. G.VBlack improved the properties of amalgam, as a result of which it became universally recognized.

The foundations for the creation of cements were laid by the French engineer Sorel in 1858. When mixing zinc oxide powder, liquid zinc chloride and grated glass, the solution quickly hardened, became strong and well fixed mosaic tiles. Due to this property, the material was called "cement" (from Latin cementum - broken stone). In the late 70s of the XIX century appeared phosphoric acid cement, which is still used today. In the XX century, the most popular were silicate cements proposed by the German dentist Ascher in 1904. In 1964, Smith described the chemical adhesion to tooth tissues of a material based on zinc oxide and polyacrylic acid.

Secure bonding of the filling to the hard tissues of the tooth is provided by glass ionomer cements (SIC), developed in 1969. Wilson and Kent. Glass ionomer cements incorporate polyacrylic acid, polymaleic acid, or polyitaconic acid as copolymers, as well as molten glass.

Advances in the chemistry of high-molecular compounds have made it possible to create materials based on cold-curing acrylic polymer-monomer systems. They are more aesthetic, resistant to mechanical and chemical influences than cements. Epoxy resins have a successful combination of good adhesion and low toxicity.

Scientific achievements in the field of material science allowed R.L.Bowen in 1962 to lay the foundation for the development of composite materials. Vioposoge proposed adhesive methods of tooth restoration. Thus, in the early 60's of the XX century a new type of restorative materials was created, characterized by less shrinkage, better physical and chemical properties, adhesion to tooth enamel, tight marginal fit and satisfactory aesthetic qualities.

In the 70s of XX century the production of photo-cured composites began. The highest results are achieved by using microfilled hybrid materials. The process of their perfection is going on continuously, strength, aesthetic characteristics are improving, biocompatibility and quality of adhesion to tooth tissues are increasing.

Since the 20th century, the development of dentistry has proceeded at a tenfold pace: novocaine for anesthesia of operations, electric, then pneumatic and laser drills, straight and angled tips for them, facilitating access to all parts of the tooth were

introduced; different materials for creating prostheses were tried, which became more diverse, allowing to replace not the entire tooth row, but teeth selectively, which led to the development of implantation of individual teeth; the advent of dental X-ray made dental treatment more accurate and effective.

The rapid development of technology since the beginning of the XX century caused the emergence of new methods and materials that began to be used in dentistry.

Electric drill began to be actively introduced into practice, and in 1905 novocaine was first used for anesthesia. Straight and angled handpieces were invented, which facilitated the work of doctors.

Rubber, porcelain, aluminum and, later, plastics were all used by dentists in search of the best results. Various types of plastics, including photopolymers, are still widely used in dentistry today, for example, to make removable dentures or as a filling material.

History of dentistry since ancient timesIn the middle of the XX century pneumatic turbine drill machines became available, and today they are replaced by laser ones. Modern powerful anesthetics make it possible to carry out any manipulation with virtually no pain.

The use of X-ray machines to examine the oral cavity has dramatically improved the accuracy of diagnosis and the quality of dental treatment. Amazing results are achieved today in orthodontics, where NASA developments are used.

The development of precision molding and milling technologies has made it possible to create comfortable and durable braces. Ceramic restorations are widely used, allowing to exactly repeat the natural shape and color. A real revolution in prosthetics was the method of implantation, especially important in the case of complete absence of teeth.

Scientific and technological progress today has given us opportunities that would have seemed a miracle 100 years ago, and it does not stop for a minute.

Looking at new technologies, such as 3D printing, one can only guess what dentistry will become in the near future.

Now dentistry is among the fastest growing branches of medicine and every year offers doctors more advanced equipment and materials, and patients - safer, more comfortable and effective treatment, extraction and prosthetics, modern methods of oral hygiene and aesthetic dentistry, which can return the beauty of the smile even in the most difficult cases.

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