

## IN MEMORIAM

### Illarion Postolachi to the 80th anniversary since the birth

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**Fig. 1. Illarion Postolachi, MD, PhD, Professor,  
Honored man of science of the Republic of Moldova.**

Postolachi Illarion Ivanovich, was born on October 20, 1936 in the village New Kureshnitsa, district Soroca in a peasant's family (father is Ivan Yakovlevich, 24.06.1911–24.11.1979, mother is Anna Aleksandrovna, 15.08.1911–16.06.1985) (fig. 1, 2).

The main dates of biography:

1944-1951 – the pupil of seven-year school in the village Sholkan, district Soroca.

1951 – high school №1, Soroca.

1954-1959 – continues study in the Kharkiv State Medical Stomatologic institute (Kharkiv, Ukraine) (fig. 3).

1959-1960 – the military dentist of the Pacific navy in Vladivostok. Then he is transferred to the 26th infirmary in the village De-Castri of Khabarovsk Krai.

1961 – the divisional dentist in Grozny.

1962-1963 – the clinical intern of department of the Orthopedic Dentistry of the Bogomolets National Medical University in Kiev.

1963-1969 – the assistant to department of the Orthopedic Dentistry of the Chisinau state medical institute.

1967 – defended the dissertation for a degree of the candidate of medical sciences, on the subject: "Clinical features and treatment of a deep occlusion at children (clinical and experimental investigation)". The research supervisor of the thesis – the Doctor of medical sciences, professor A. I. Betelman (the department of orthopedic odontology of the Kiev state medical institute of A. A. Bogomolets). Studying of histological microscopic sections of functionally loaded teeth showed that in tissues of periodont take



Fig. 2. Parents of Illarion Postolachi.

place deep morphological changes. In all cases was observed edema of tissues of a gingiva, narrow periodontal cleft in the direction to apexes of roots, squeezing of a periodontium and resorption of a bone tissue. It was established that tissue transformations of alveolar processes both in the field of functionally loaded, and in the unloaded teeth are the cornerstone of the mechanism of treatment of a deep occlusion.

1972 – the scientific status of the associate professor is given.

1969-2007 – the head of the department of the orthopedic odontology of the Chisinau State Medical Institute.

1971-1982 and 1992-2001 – the dean of Stomatologic faculty.

1979-1999 – the chief dentist of the Ministry of Health and the Chairman of Certifying commission of dentists of the Republic of Moldova.

1980-1988 – the head of the first epidemiological inspection of the population of the Moldavian SSR for the purpose of studying the structure of orthopedic dental diseases and establishing types of necessary medical care.

1983 – implemented in practice of dental health care of Moldova a method of the production of artificial porcelain crowns, which allow to increase the functional and esthetic value of prosthetic works for frontal teeth.

1983 – defended the doctoral dissertation on the subject: “Patterns of protective and compensatory reaction in tooth tissues and a possibility of its stimulation at orthopedic interventions. Experimental clinical trial” (Kiev, 06.01.1983). Subsequently, results of the long-term work formed the basis of the monograph “Artificial Tooth Crowns” (1985).

1986 – the academic status of professor is given.

1976-1990 – the coauthor in 10 scientific articles published in the central medical magazine of the USSR “Stomatology” (Moscow).

1976-2011 – the board member and the vice-chairman of scientific organization of dentists in the Republic of Moldova.

1979 – results of his own scientific research and achievements are noted in the encyclopedic reference book “Moldavian Soviet Socialist Republic” (page 376).

1984-1990 – the member of Editorial board of the journal “Medical Care of Moldova”.

1985 – the monograph “Artificial Tooth Crowns” is published /under edition E. L. Kiriya/. – Chisinau: “Știința”, 1985. – 85 pages.

1987 – takes advanced training courses for professors in orthopedic odontology at the Moscow medical stomatologic institute of N. A. Semashko.

1987-1990 – the board member of Association of stomatologists of USSR.

1988 – together with the candidate of medical sciences I. Sheptelich and the associate professor E. Kiriya completed methodical references on “Selective Grinding of Teeth as a Method of Orthopedic Treatment”. – Chisinau: “Știința”, 1988. – 15 pages.

1988 – together with the group of authors (prof. M. G. Bushan /Kishinev/, prof. Z. S. Vasilenko /Kiev/, prof. L. S. Velichko /Minsk/, prof. G. Yu. Pakalns /Riga/, Dr. of medical sciences D. M. Karalnik /Moskva/, candidate of medical sciences I. Inzhiyants/Pyatigorsk/, I. Poyurovskaya /Moscow/) worked on the creation of the refer-



**Fig. 3. A graduate of the faculty of dentistry.**

ence book which included the questions connected with inspection of orthopedic patients, pre-prosthetic therapy and surgery, a maxillofacial prosthetic repair, the most often found mistakes and complications at different stages of manufacturing of dentures: "Reference book of a prosthodontist" – Chisinau: "Cartea Moldoveneasca", – 1988. – 428 pages.

1989 – published the education guidance "Orthodontic and orthopedic treatment of the anomalies of a bite caused by a congenital facial cleft" / F. Horoshilkina, G. N. Gran-chuk, I. I. Postolachi; under edition of P. D. Godorozha; – Chisinau: "Știința", 1989. – 144 pages.

1990 – one of the authors, together with associate professors S. Syrbu, I. Sheptelich, of the Moldova's first terminological dictionary on orthopedic and therapeutic stomatology for students and dentists "Dictionary of prosthetic and therapeutic stomatology terminology". – Chisinau: "Știința", publishing house, 1990. – 38 pages.

1991 – Together with the candidate of medical sciences, associate professor G. G. Birsa, completed methodical references on the subject "Improvement of clinical and technological processes in manufacturing of metal-ceramic tooth prostheses" – Chisinau: "Știința" publishing house, 1990. – 47 pages. It describes the basic clinical principles and technological processes of production of metal-ceramic tooth prostheses, and established the role of the certain factors influencing their quality.

1993 – Together with associate professors I. Sheptelich

and G. Nikolau completed methodical references of "Application of implants in stomatology", 28 pages.

1995-2001 – the member of Consortium of deans of stomatologic faculties of Romania and the Balkan countries.

1982-1992 – the Chairman of the methodical Commission of stomatologic faculty.

1992 – For big merits in the field of medicine the title "Honored Man of Science of the Republic of Moldova" is awarded.

1993-2009 – the member of the Academic Council on presenting of theses.

1993 – the textbook for students is published: Postolachi I. and coauthors. "Prosthodontics". – 446 pages.

1994 – the textbook for students is published: Bârsa Gh., Postolachi I. "Techniques of dentures creation". – 399 pages.

1995 – the medal "Civil Merit" (for merits in favour of civil society) is awarded.

1999-2003 – participated in the organization and development of National congresses of dentists of the Republic of Moldova (X-1999; XI-2001; XII-2003).

2006 – is awarded medal "Nicolae Testemițanu".

2006 – is named "the Person of the Year", is awarded the medal "The World of Freedom" according to ABI of the USA.

2006-2011 – the member of Editorial board of the journal "Dental Medicine" in the Republic of Moldova.

On October 20, 2016, is the 80th anniversary since the birth of Illarion Ivanovich Postolachi, who bore the title "The Honored man of science of the Republic of Moldova". He was the doctor of medical sciences, professor, the founder of national school of orthopedic stomatology and the founder of its bioethical direction, for many years he was the head of the department of Orthopedic stomatology of the USMF "Nicolae Testemitanu" in Chisinau. Results of its long-term clinical and experimental studies formed the basis of the doctoral dissertation on "Patterns of protective and compensatory reactions in tooth tissues and a possibility of their stimulation at orthopedic interventions. Experimental and clinical probe" (Kiev, 06.01.1983, Ukraine) which allowed to make one of the major practical conclusions that simultaneous deep preparation of a large number of teeth is doubtful and unsafe because of creating a huge "wound surface" of solid tissues, that demands the corresponding protection. Having carried out careful generalization and the complex analysis of own research and the latest scientific facts, I. I. Postolachi has formulated a number of definite patterns, and chronology of development of pathophysiological reactions and morphological changes in hard tissues, has defined the main protective and preventive actions after teeth preparation. He has proved the necessity of the sparing method of

preparation both protective and preventive measures after orthopedic interventions on solid tissues of teeth, which included independently developed methods on the basis of available medical supplies in practical activities of dentists. For stimulation of protective and compensatory reaction in tissues of the prepared teeth, especially when teeth are completely deprived of enamel, alongside with the use of mechanical means of protection professor I. I. Postolachi recommends to use medicines that contain calcium, phosphorus, and also specially developed stimulating paste by his own recipe.

Thus, I. I. Postolachi on the basis of own research has developed a sequence of recommendations for orthopedic treatment of dental patients: 1) technique of the sparing preparation of teeth with continuous water irrigation; 2) protective and preventive measures that reduce inevitably arising pathological phenomena in tooth after preparation; 3) actions providing activation of reparative processes in hard tissues.

Later results of researches were published in the monograph "Artificial Tooth Crowns" (1985). Many highlighted issues are fundamental for theoretical and practical stomatology, and remain actual in science and practice of the present days.

Without any doubt, the fixed denture requires obligatory preparing of a layer of solid tissues of teeth. As professor I. I. Postolaki notes, such operative measure negatively influences, first of all, on tooth tissues and can become the reason of a series of the close and remote complications. Quite often preparing of teeth is performed without following the proper technique and appropriate air and water cooling, the fact that enlarges the risk of various complications.

Professor I. I. Postolachi underlined that, without having necessary data about the histomorphological changes and features of pathophysiological reactions in tooth tissues in response to a mechanical intervention, prosthodontists as a rule, dissect teeth, without keeping to the appropriate measures for activation of protective processes and prophylaxis of possible complications. Such approach to process of preparation of teeth under crowns is not justified from the biological point of view because preparing of tooth should be considered as a type of the surgical intervention, demanding the corresponding protective measures referred to creation of optimum conditions for implication of protective reactions. It is fair from those positions that at destruction of enamel-dentinal border dentinal canaliculi become open and pulp elements – protoplasmic processes of odontoblasts are damaged. Therefore, because of such manipulation the "wound" surface of a dentine and a wound surface of a pulp are formed. Considering specific structure and biological properties of solid tissues of teeth, by numerous observations it was established that in the next several days after preparing there are no accurate morphological changes. They become visible only in a pulp

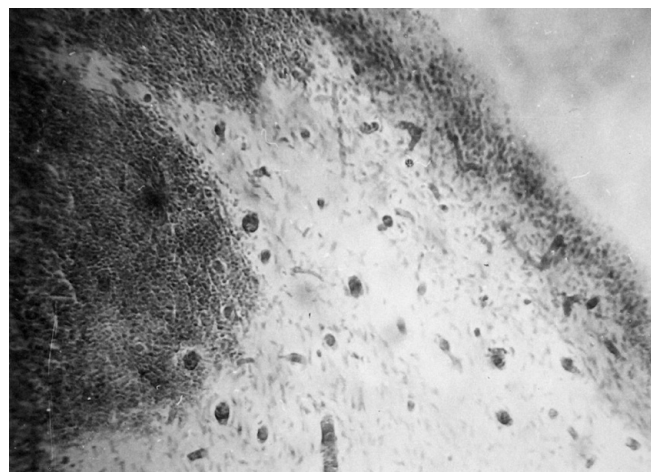
of teeth several hours after an operative measure thanks to features of its structure and functions. Proceeding from the above stated, one of fundamental conclusions, which has to become the rule for all prosthodontists, is the following: while preparing teeth under crowns, the doctor is obliged to take preventive measures for conservation of viability of tissues of teeth, and after its completion must undertake the appropriate protective measures.

The subsequent results of researches of Professor I. I. Postolachi showed that in the course of preparation of teeth it is necessary to consider existence of certain protective barriers in tissues of teeth to caries, wedge-shaped defects, pathological erasability and other diseases, and their absence at intact teeth, which preparation is inevitable when designing bridges. Besides, while making an obturation only a limited site of a surface of tooth serves as an operational field, while preparation under artificial crowns requires the whole crown as an operational field.

**Fundamental scientific and practical regulations on protective and compensatory mechanisms in tooth tissues caused by deep preparation for artificial crowns**  
**Reaction of tooth tissues to deep preparation according to I. I. Postolachi (1982).**

**1 day later:**

1. Growth of blood filling of pulp vessels;
2. Centers of large size hemorrhage in pulp (fig. 4);
3. More considerable vacuolization of odontoblast and other zones of pulp;
4. Growth of macrophages quantity – the phenomenon of protective character.



**Fig. 4. Microphoto. The centers of hemorrhages in pulp 24 hours after preparation of tooth with a dentine exposure. Hematoxylin and eosin stain.**

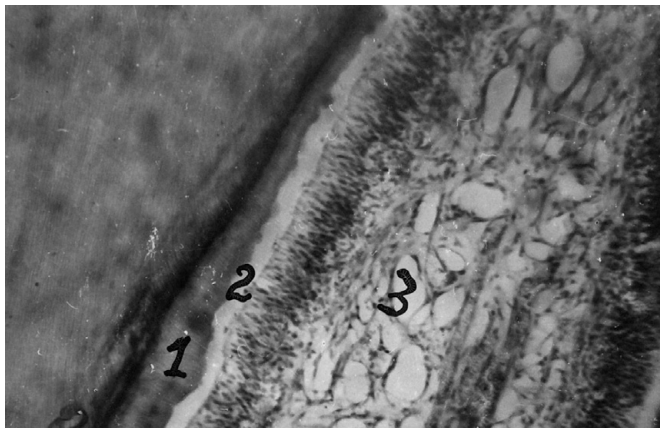
**30 days later:**

1. Blood filling of pulp vessels is less expressed, however, the phenomenon of a mesh atrophy is observed, the sign of dystrophic character leading to the death of odontoblasts;

2. Quantity and the size of a vacuole decrease;
3. Formation of tertiary dentine in a peripheral layer of pulp.

**90 and 180 days later:**

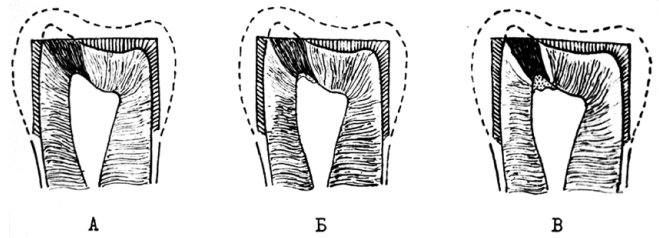
1. The beginning of normalization of vascular reaction, but dystrophic process (a mesh atrophy) progresses;
2. In a layer of odontoblast small vacuoles are noticed;
3. In the dentine is found disintegration of contents of the opened tubules. When air and microorganisms get into them, they form, so-called, "dead ways" which stretch in the form of dark strips towards the pulp chamber;
4. From the site of pulp chamber is seen the formation of a layer of secondary dentine which is poorly canalized, and the available dentine tubules are located chaotically (fig. 5, 7).



**Fig. 5.** Strips of secondary dentine (1), predentin (2) and pulp (3) 180 days after preparation of tooth with a dentine exposure. Microphoto. Hematoxylin and eosin stain.

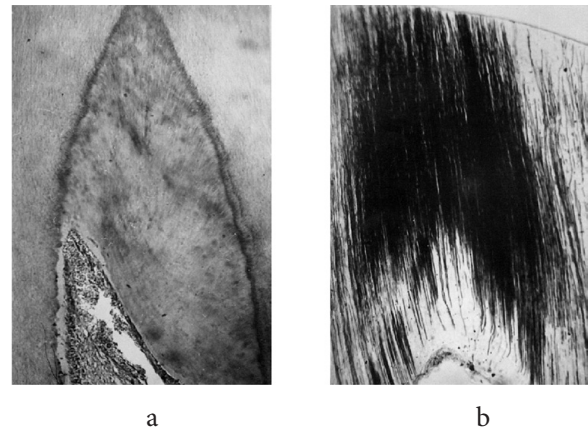
**Features of reparative regeneration of dentine according to I. I. Postolachi (1982)**

1. After preparation of teeth with an exposure of dentine its morphological reorganization leads finally to formation of the protective capsule around this site. It blocks penetration of disintegrated content of the opened tubules deep into blood vessels of pulp and, therefore, in the whole organism.
2. It is established that preparation of teeth with destruction of enamel-dentine border violates formation of a zone of sclerotized dentine ("dead ways"). It is noted that in certain cases, even ten years after covering of teeth with a crown, there are no signs of mineralization of the main substance of dentine and formation on its surface of a sclerotized layer.
3. It is proved that the peripheral strip of sclerotized dentine (60–80 microns) is formed within the first three years. Speed and width of its formation are in direct dependence on depth of preparation of enamel and age of patients. Further, its size increases much more slowly (fig. 6).



**Fig. 6.** The scheme of dynamics of encapsulation of the pathological process which has resulted from opening of dentinal tubules: A – right after preparation; B, C – 3 and more years later.

An attentive study of the main conclusions of the dissertation work and the monograph of I. I. Postolachi reveals their potential for practical activities of dentists that could bring considerable benefit to many patients with defects of solid tissues of vital teeth as well as for those with partial edentations.



**Fig. 7.** Protective and compensatory reactions in dentine after preparation: a) Formation of a layer of secondary dentine according to the site of naked dentine 180 days after preparation of a tooth. Microphoto. Hematoxylin and eosin stain; b) The protective capsule around the opened dentine tubules 9 years after covering a tooth with an artificial crown.

It is necessary to emphasize that established facts, regularities and practical recommendations for dentists developed by Professor I. I. Postolachi get special value in the context of the latest developments, both in orthopedic and therapeutic stomatology. Thus, results of extensive scientific research and the reasoned practical recommendations of Professor I. I. Postolachi support the main tendency in modern stomatology of the 21st century and all world medicine directed to minimum invasive instrumental intervention in tissues of a human body.

**References**

1. Postolachi II. Patterns of protective and compensatory reactions in tooth tissues and possibility of their stimulation at orthopedic interventions. Experimental and clinical study (Doctoral dissertation). Kiev. Ukraine, 1982.