ABSTRACT

The habilitation thesis entitled "Abordarea comprehensivă a patologiei oro-maxilo-faciale" represents the summary of my professional, scientific and didactic activity from the end of the doctoral thesis entitled "Interrelația dintre implanturi și sinusul maxilar ", PhD thesis done under the supervision of Prof. Dr. Alexandru Rotaru at the Department of Oral and Maxillofacial Surgery, Faculty of Dental Medicine, University of Medicine and Pharmacy Iuliu Haţieganu, Cluj-Napoca, Romania and publicly defended in April 2010.

The doctoral research was carried out in the field of implantology by conducting studies in the laboratory, on animals and on the human cohort regarding the treatment of bone atrophy in the posterior maxillary region. Experimental research was aimed at determining the effect of biofitomodulators used as membrane barriers on the integration of sinus grafts and histo-pathological assessments in the sinus mucosa adjacent to alloplastic material used for subantral addition.

After completing my doctoral studies, I continued my research in the field of oral and maxillofacial surgery. The first area of interest was in implantology. In this area, our research team analyzed the adjacent tissues of titanium plates used in jaw surgery. Our findings suggest that plaque removal is a feasible option for patients to avoid local complications due to titanium migration. In another study, we looked at the influence of systemic diseases in implant osseointegration. Our research team analyzed the current literature to find relevant clinical studies on the influence of inflammatory bowel disease on implant osseointegration. Given the high prevalence of peri-implantitis, the literature was analyzed to find clinical trials in which patients with peri-implantitis used the enamel matrix derivate in non-surgical and surgical therapy.

Most of the time, dentists can face many challenges when it comes to the diagnosis of periodontal disease, pathology that it is well known one for the main causes of tooth loss. To help clinicians and researchers, we have published several papers with therapeutic guidelines and evidence. We have indicated that polymer-based bone substitutes, the use of enamel matrix derivate or platelet-rich fibrin can be a useful alternative in treating infraosseous defects caused by periodontal disease.

The second interest was in the field of hematology and medical oncology. In the research carried out in the laboratory, which aimed at in vitro evaluation of morphological characteristics and stability of dental composites immersed in saliva collected from patients with leukemia. It was observed that the chronic myeloid leukemia sample was the least aggressive in terms of composite degradation, after control samples and artificial saliva. Based on the characteristics of dental composites, its behavior varies in different immersion environments. The type of leukemia dictates the influence of saliva on composites. Acute leukemia in comparison with chronic leukemia changed the most the properties of composites.

In the field of malignant pathology, following the research carried out, in the context of the clinical impact they had, we have developed inter-institutional protocols for the prevention, diagnosis and treatment of oncological pathology, referring here not only to hematological malignancies, but also to solid tumors with malignant substrate that represent an important percentage of the surgical activity carried out in the Clinic of Oral and Maxillofacial Surgery Cluj-Napoca, in which I activate.

To help the research community and dentists, our research team has published some papers on COVID management in dental institutions. Together with the research team, we have conducted guidelines and studies in vitro to indicate valuable information for dentists and other medical professionals in their fight against the new Coronavirus, providing solutions to protect themselves and their patients during their work in medical offices.

Another objective of our research was for orthognathic surgery and temporomandibular joint disorders. The objective and subjective postoperative recovery symptoms of patients after bimaxillary orthognathic surgery that attributes the healing process was evaluated. A possible link was also found between disorders of the temporomandibular joint, neck and cervical postures.

A competence of the specialty of oral and maxillofacial surgery consists in the management of traumatic injuries. Therefore, we have published in specialized journals the advantages of using new methods of cranio-

facial reconstruction. We also emphasized that the treatment of associated viscerocranial fractures should be initiated as soon as possible, in order to ensure acceptable functional, cosmetic and aesthetic results with the three-dimensional reconstruction of bone architecture and soft tissues. Multidisciplinary collaboration between neurosurgeon, ophthalmologist, intensive care physician and maxillofacial surgeon throughout the duration of hospitalization in such cases is vital. Often, we encounter various vascular lesions in the region of the head and neck. In order to indicate the role of enhanced magnetic resonance imaging with dynamic contrast in evaluating the characteristics of the flow and the extent of the lesion in vascular abnormalities, together with the research team we have published specialized articles to help clinicians.

I am currently a member of the following medical organizations: International Association of Oral and Maxillofacial Surgeons (IAOMS), European Association for Cranio Maxillofacial Surgery (EACMFS), Romanian Society of Oro-Maxillofacial Surgery, College of Dentists (CMS) Cluj-Napoca, and the Romanian College of Dentists (CMSR). I was selected as a reviewer for several manuscripts addressed to ISI and BDI journals. As a result, in order to support clinicians and researchers to provide news about the use of dental materials in dental medicine, I was invited as an editor at ISI journals. My research activities were carried out under the funding of several grants in which I was a member or project manager.

Since 2004 I have been a member of the University of Medicine and Pharmacy "Iuliu Haţieganu" Cluj-Napoca, starting my activity as an assistant professor at the Department of Oral and Maxillofacial Surgery, subsequently following the stages of promotion as Head of Works in 2015 and Associate Professor in 2020, a position that I am still currently in the discipline of Maxillofacial Surgery and Implantology. During the teaching activity we have carried out teaching activity within the internships and courses with the students of the Faculty of Dental Medicine, General Medicine, Dental Technique, coordination activity of the resident doctors in the training stages in the oro-maxillofacial surgical specialties. I also attended three post-graduate courses, in 2010 and 2011.

Throughout the teaching process, we have responded to the University's requests to participate in the committees for taking the entrance exams, residency or for filling the teaching positions, as well as in the activities of coordinating the students' bachelor's papers.

The scientific activity resulted in the publication of 10 specialized books, over 20 articles published in ISI-rated journals and over 15 articles published in BDI journals, and the crowning of the merits came from obtaining the "Gheorghe Bilașcu" Prize awarded to the staff of the Discipline of Oral and Maxillofacial Surgery, on behalf of U.M.F. "Iuliu Haţieganu" Cluj-Napoca, in 2016 and the Prize of Excellence in scientific activity granted by the University of Medicine and Pharmacy "Iuliu Haţieganu" Cluj-Napoca, Romania, to the research team for the project: "Implanturi cranio-faciale personalizate obținute prin prototipare inovativă 3D din materiale compozite ranforsate cu fibră de sticlă ".