Biomedical Research Award

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Biography

I received my DDS from the Federal University of Santa Maria and a MSD in Orthodontics from the Pontifical Catholic University of Parana, in Brazil. I moved to the United States and obtained a PhD degree and an orthodontic certificate from the University of Connecticut Health (UCH). I am currently a full-time Assistant Professor in the Division of Orthodontics at the UCH. I dedicate my time pursuing my passion towards craniofacial research, as well as contributing to orthodontic graduate students' education and patient care.

Project Synopsis

Osteoarthritis (OA) is a degenerative disease characterized by progressive loss of cartilage and subchondral bone sclerosis. Temporomandibular Joint-OA (TMJ-OA) significantly impairs patient's quality of life by causing acute and chronic pain. Currently there are no effective non-invasive treatments for TMJ-OA and total joint replacement becomes the only option. FGF18 is a member of the fibroblast growth factor family with essential roles for endochondral ossification and chondrogenesis, selectively binding to FGFR3 receptor. Our preliminary data has shown that FGF18 protein expression and phosphorylation of FGFR3 are significantly reduced in the cartilage of the TMJ as mice ages, suggesting lack of FGF18 signaling could contribute for the development of TMJ-OA. Several studies have reported that fibroblast growth factor 18 (FGF18) attenuates cartilage degradation. Whereas the anti-osteoarthritic effects of FGF18 in the articular cartilage are known, the effects of FGF18 in a TMJ cartilage degeneration mouse model or the molecular changes induced by FGF18 in chondrocytes from the TMJ remain to be determined.

Importance of AAOF Funding

My journey as a junior faculty has been challenging but also very gratifying, and the funding from AAOF has been helping to establish myself as a successful academician in Orthodontics. Preliminary data collected thanks to the funds provided by AAOF were invaluable for my NIH KO1 award. My goal is to continue to grow as a clinician and craniofacial scientist. The support from AAOF through the 2022 Biomedical Research Award (BRA) will provide the necessary support to implement new research ideas, expanding my possibilities to create innovations in the field and new grants submission.