

Silk in Medicine

Anh Hoang

Chief Science Officer, Sofregen Medical Inc.

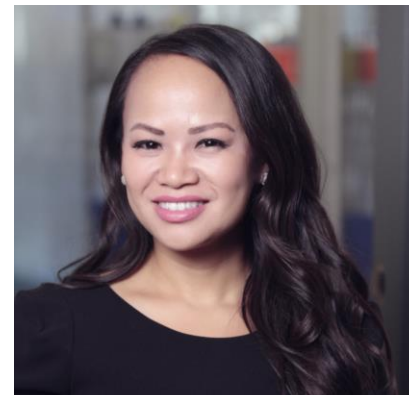
Abstract

Silk's application in medicine is embedded in history. The Greek surgeon, Galen of Pergamon, notes that he used silk to suture together gladiators' severed tendons around 170AD. But it wasn't until 1000 years after Galen that the first mass-produced, sterile silk sutures were invented (J&J, 1887). And since, silk sutures have become the representative for silk protein and silk engineering in the medical community. In recent decades, reconstituted liquid silk has surfaced from academic research as the next generation biomaterial that couples both superior biocompatibility and engineering controllability. New emerging companies have been created to use reconstituted silk for the next generation of products in medical aesthetics, organ repair, drug delivery, and orthopedics.

Sofregen Medical Inc. leverages silk protein for soft tissue volume restoration. It received the first FDA clearance for Silk Voice- a product comprised of porous silk particles to be injected into a patient's vocal fold to restore tissue volume, enabling the fold to meet at the midline for improved phonation. This presentation will discuss Sofregen's experience in engineering silk protein for medical applications and the regulatory and manufacturing challenges associated with introducing a new technology to market.

Biography

Dr. Hoang (PhD) brings strong interdisciplinary scientific training to Sofregen. As a co-founder of Sofregen, she has built a strong R&D team and developed a robust regulatory strategy for the company to bring these products to market. This effort produced the first product made from reconstituted silk protein to be cleared by the FDA for a medical use.



Outside of Sofregen, Dr. Hoang is a lecturer at Tufts University within the department of Biomedical Engineering. She serves on the Medtech Advisory Group at Massachusetts Biotechnology Council (Massbio) and Steering Committee of MassMedic Ignite Program. Dr. Hoang was a recipient of the 2018 Medtech Boston 40 under 40 Healthcare Innovators.

Dr. Hoang completed her doctorate degree in material science engineering from Vanderbilt University as a National Science Foundation (IGERT) graduate fellow and completed her post-doctoral training in biomedical engineering at Harvard Medical School/Massachusetts General Hospital as an Executive Committee on Research (ECOR) fellow. Dr. Hoang is a proud graduate of Mount Holyoke College (B.A).