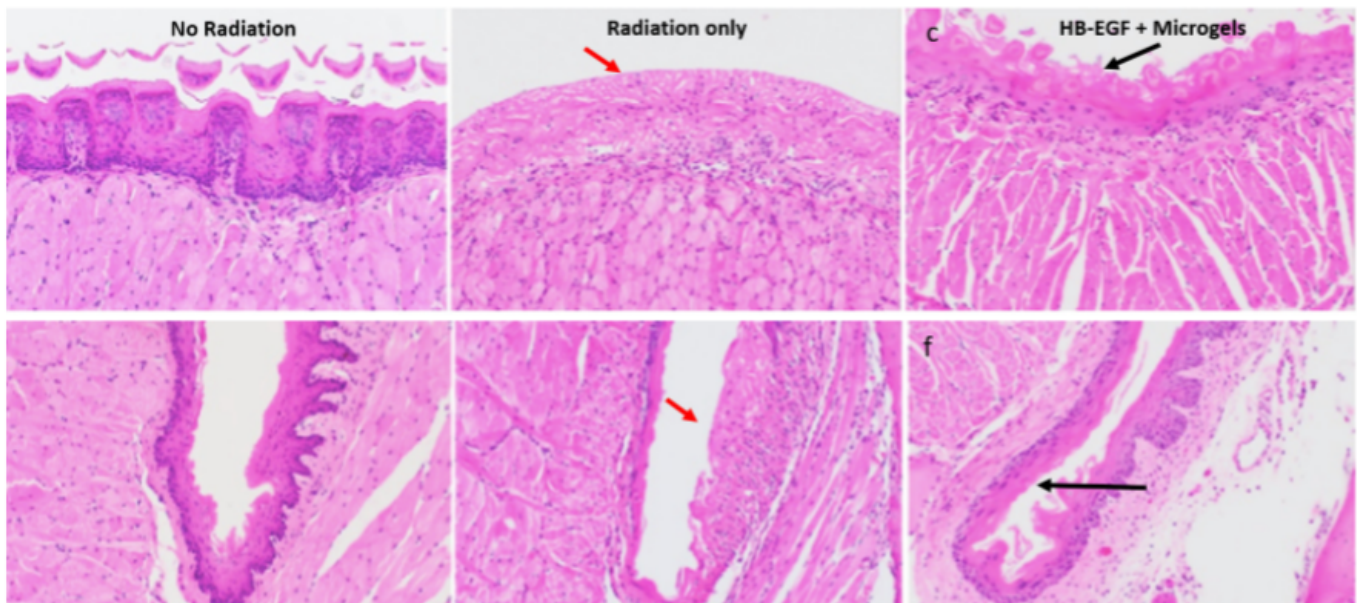


**Docket #:** S19-202

# Active Microgel Treatment for Oral Mucositis

Stanford researchers have developed the first topical regenerative treatment for the oral cavity following chemo/radiation. Approximately 60,000 patients in the U.S. are annually diagnosed with head and neck cancer. More than 60% of patients that undergo radiation and chemotherapy develop severe mucositis, a condition marked by inflammation and ulceration. This leads to early termination of radiation treatment and to pain, which requires opioid analgesia and prevents oral intake. The researchers have created a mucoadhesive microgel that delivers heparin-binding EGF-like growth factor (HB-EGF), a topical growth factor that enhances epithelial migration and proliferation during the 2-week period following radiation therapy. These dopamine modified microgels improve HB-EGF's local delivery, increasing the factor's resident time and stability in the oral cavity and preventing the severe forms of the disease in animal models.



HB-EGF with microgel delivery protects the oral cavity from radiation-induced mucositis.

(Image credit: the inventors)

## **Stage of Development**

Results in animal models show slower progression to disease as well as disease prevention with the use of the microgel encapsulated HB-EGF.

## **Applications**

- Treating and preventing oral mucositis
- More broadly, microgel drug delivery to mucosas (oral, vaginal, rectal, nasal cavity, pulmonary, etc.)

## **Advantages**

- HB-EGF microgels target large unmet need
- Demonstrated preclinical efficacy
- May increase patient compliance and survival
- Lubricating and convenient
- Market size >\$1 billion

## **Patents**

- Published Application: [WO2020243607](#)

## **Innovators**

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