The Rivelin patch sticks to the mucosal surface for much longer than any other treatment

By Brendan Day, DTI

Though the oral mucosa’s accessibility and high level of blood supply make it an ideal site for drug delivery, various other factors can make drug delivery quite difficult. However, a new polymer plaster, the Rivelin patch, developed by scientists from the University of Sheffield’s School of Clinical Dentistry in collaboration with Dentimex from Copenhagen, has the potential to revolutionise the treatment of oral conditions. Dental Tribune International spoke with Dr Craig Murphy, Reader in Oral Bioscience at the university and lead author of the research, about how the patch works, its benefits and upcoming plans for clinical trials.

What was it that motivated you and your team to develop the Rivelin patch? Was it designed to target any specific conditions?

There are very few ways to deliver drugs to the oral mucosa. The current methods use mouthwashes, gels, creams or sprays that are delivered to the entire lining of the mouth, in which case they affect both healthy and diseased tissue. In addition, drugs that are delivered using these methods have short contact times with the diseased tissue before they are washed away, so delivering drugs this way is often ineffective or requires the use of high drug concentrations to reach a therapeutic dose.

I have worked in the oral medicine unit at the University of Sheffield’s School of Clinical Dentistry for over ten years alongside Prof. Martin Thornhill, a world-leading expert in oral medicine. Thornhill, along with many other oral medicine consultants, has known for some time about the inadequate treatments for oral conditions. The issue has been with the development of a patch that is able to stick to the moist surface of the oral cavity, and the willingness of polymer chemists, drug delivery specialists and commercial enterprises to identify this unmet clinical need.

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References