

# Smile brighter: A glimpse into the future of tooth regeneration

SADJ February 2024, Vol. 79 No.1 p3

Mr KC Makhubele – CEO, South African Dental Association

Prepare yourselves for an extraordinary breakthrough in the field of dentistry, ladies and gentlemen! The year 2024 is already shaping up to be a promising one (forget NHI for a moment), as we anticipate the launch of innovative clinical trials aimed at regenerating our teeth. Yes, you read that correctly – the ability to regrow one's own teeth may become a reality sooner than you believe.

A group of devoted scientists, led by the visionary minds at Toregem Biopharma, is on the precipice of making a significant advancement that could transform dental care as we know it. After effectively growing new teeth in animal test subjects, this Japanese pharmaceutical startup is now preparing to conduct human trials. Imagine a world in which tooth loss is no longer a permanent concern, but merely a minor blip in the majestic symphony of life.

Dr Katsu Takahashi, the brains behind this innovative project and head of the dentistry and oral surgery department at the Medical Research Institute Kitano Hospital, could not contain his excitement when he said: "Every dentist's dream is to grow new teeth." He has devoted his entire existence to making this dream a reality and is now on the verge of accomplishing it.

In 2005, Dr Takahashi made an important discovery at Kyoto University: a gene in rodents that had a significant impact on their dental development. This gene, known as USAG-1, was responsible for stimulating tooth growth when it was inhibited. What followed was years of meticulous research, culminating in the development of a "neutralising antibody medicine" capable of blocking USAG-1.

The exciting portion? The discovery was not limited to rodents; it extended to ferrets, which have dental patterns

similar to humans. Imagine ferrets, previously deprived of their natural dental prowess, producing new teeth as a result of this regrowth medication. This demonstrates the immense potential of this innovation.

But the most thrilling chapter remains to be written. On the horizon are clinical trials involving healthy adult participants. A clinical trial for children between the ages of two and six with anodontia, a rare genetic disorder characterised by the absence of multiple infant and/or adult teeth, is also on the agenda if all goes according to plan.

As we anxiously await the outcomes of these trials, it is difficult not to be optimistic about the future. According to the Japan Times, the children participating in the clinical trial will receive a single dose of the drug to evaluate its efficacy in stimulating tooth development. If successful, this potentially game-changing medication could pursue regulatory approval by 2030.

Dr Takahashi envisions a future in which tooth-regrowth medicine proudly stands alongside dentures and implants as a viable option for individuals seeking to regain a complete set of teeth. It is a future where smiles are brighter, confidence rises and tooth loss concerns are a thing of the past.

Therefore, as we herald in 2024, let us celebrate the astounding progress made by these dedicated scientists. Tooth regeneration is no longer a far-fetched possibility; it is now imminent. Cheers to a future in which every smile is complete and no one needs to conceal their happiness behind closed lips. Prepare to bid farewell to your dental issues and say hello to a world where tooth regrowth is not just a hope but an imminent reality.

## NOTICE OF 22nd ANNUAL GENERAL MEETING (AGM) OF The South African Dental Association NPC ("SADA")

Notice is hereby given that the 22nd 2022 Annual General Meeting of Members (AGM) of The South African Dental Association (SADA) NPC, will be held on Thursday **25 April 2024 at 18h00**, which will be conducted virtually on this date through Zoom virtual meeting platform or similar digital platform. **The agenda together with supporting documents for the meeting will be posted on the SADA website.**

**SADA is *your* Association and *your* voice counts.**

**KC Makhubele**  
Chief Executive Officer  
February 2024



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