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Are GLP-1 Major Threat To The Insulin Delivery Tech Market?

by Barnaby Pickering

A small scale study has indicated that GLP-1 agonists could restore normal HbA1c levels in type I diabetics. This therapy could be a huge step forward for the treatment of this chronic disease if this benefit is shown in larger studies.

Semaglutide "cured" 70% of patients of type I diabetes – a condition that historically has been deemed to be chronic – in a ten-patient trial, suggesting that glucagon-like peptide-1 receptor agonist drugs (GLP-1 inhibitors) could obviate the need for glucose control technology in many patients.

The results of the study, led by Paresh Dandona and colleagues at the University at Buffalo, are published as a "Correspondence" in the *New England Journal Of Medicine*.

The study enrolled ten patients with poorly managed type I diabetes aged 21 to 39 treated at the State University of New York at Buffalo Hospital and followed them for six months.

At the point of the study's initiation, four of the ten suffered from diabetic ketoacidosis, while others had polyuria, polydipsia and weight loss. Nine out of the ten had antibodies for glutamic acid decarboxylase – a common indicator for insulin dependence.

The mean HbA1c level amongst the ten was 11.7% – very high – and all were taking both basal and mealtime insulin.

Initially, patients put on a course of 0.125mg of semaglutide a week. Then, in a stepwise

progression, the investigators lowered their insulin doses and raised their semaglutide levels by up to 0.5mg per week.

After three months, none of the ten needed to take mealtime insulin, and after six months, only three still required basal insulin. In the meantime, their average HbA1c levels went down to 5.9%, well within healthy margins.

So What?

Deciding whether or not GLP-1 agonists represent a systemic threat to the diabetes market is tricky.

The paper's impact has not yet been immediately significant. Share prices of both Insulet and Tandem are down over the past 30 days – 20.2% and 18.2%, respectively, but most of these drops occurred prior to the paper's publication and are more likely to be linked to the companies' modest recent financial results.

Insulet, in particular, has fared poorly over the past six months, losing 40% of its value.

Higher interest rates could be the underlying factor. Slower-burn medtech investments – which rely on a year-on-year customer base growth to reach profitability – may be much less attractive than an easy 6%.

Apple's work integrating blood glucose measurement into its Apple Watch may also be undermining confidence. The tech giant is unlikely to sign the exclusivity agreements seen between pump/CGM manufacturers, which could introduce price pressure to both market segments.

But both pump and CGM manufacturers are unperturbed.

On 7 September, Wells Fargo held a call with Tandem Diabetes. Analyst Larry Biegelsen asked the company's board whether or not the rise in GLP-1 agonists will have a marked impact on pump sales.

Tandem CEO John Sheridan made direct reference to the paper published the day before in the New England Journal Of Medicine, saying "prior to that article, we would have said we do not believe there is any real impact from GLP-1s. We still believe that."

Sheridan highlighted that the study – only 10 patients – was also "uncontrolled" and featured those in the "honeymoon phase of Type I [diabetes.] Their pancreas is still functioning, they are still generating beta cells."

"Our medical team believes there is no correlation between the function of the GLP-1 and an insulin producing pancreas," Sheridan said. "Therefore, it is unlikely [GLP-1 agonists will] stop the progression of diabetes and cause people not to use insulin."

Over at Insulet, the story is much the same. In previous earnings calls, CEO Jim Hollingshead has repeatedly said he does not believe GLP-1 agonists will limit the company's ability to target its addressable market of diabetics with its Omnipod range of insulin pumps.

Silver Linings

On the flip side, Dexcom's story could also prove that GLP-1 agonists may benefit the diabetes tech sector. Between August 15 and September 5, the day prior to the study's publication in the NEJM, Dexcom's share price steadily dropped from $115 a share to $100 a share before coming back up to $108.

For years, Dexcom has maintained that whenever a patient gets directly involved in their diabetes, the frequency in which they measure their blood glucose levels increases.

Earlier this month, the company published its quarterly investor presentation showing 20% growth in revenues to $3.5bn and a gross margin of 63%. Dexcom also revealed data showing that type II diabetics – including those on intensive insulin therapy, basal-only, and no insulin therapy – were more likely to use continuous glucose monitoring if they were taking GLP-1s.

In patients taking GLP-1 agonists, CGM provides insights that can help patients maintain their metabolic health over time and supports dose titration for the therapeutic regimen, as recommended in the GLP-1 labeling.

Dexcom chief financial officer Jereme Sylvain, said that this proved GLP-1 agonists to be a "companion therapy" to CGM, and argued that many clinicians, when prescribing these drugs, wanted to keep track of their patients' blood glucose levels.

Looking forward, Dexcom may come to rely on this companion relationship between CGM and the drugs.

Next year, the company is hoping to mimic Abbott, and launch its products directly to consumers – many of whom may be taking GLP-1 agonists for reasons other than diabetes. (Also see "*Abbott's Lingo Biowearable For Consumers Debuts In The UK As Libre Momentum Continues*" - Medtech Insight, 24 Jul, 2023.)