DIABETES RESEARCH

Openventio PUBLISHERS

ISSN 2379-6375 Open Journal http://dx.doi.org/10.17140/DROJ-1-112

Opinion

*Corresponding author
Dimiter Dimitrov, MD
Consultant Endocrinologist
Diavita Ltd
Varna, Bulgaria
E-mail: dimiter.v.dimitrov@gmail.com

Volume 1 : Issue 3
Article Ref. #: 1000DROJ1112

Article History
Received: June 25th, 2015
Accepted: July 1st, 2015
Published: July 1st, 2015

Citation
Dimitrov D. Do we need new therapies for diabetes?. *Diabetes Res Open J*. 2015; 1(3): 75-76. doi: 10.17140/DROJ-1-112

Do we Need New Therapies for Diabetes?

Dimiter Dimitrov*

Consultant Endocrinologist, Diavita Ltd, Varna, Bulgaria

Diabetes research and practice cluster (drug developers, payers, regulators and physicians) often (and especially in recent times) question the need of new therapies. Why would we need new therapies nowadays, when we have 9 classes (insulins, sulfonylureas, biguanides, meglitdes, thiazolidnediones, alpha-glucosidase inhibitors, DPP-4 inhibitors, SGLT2 inhibitors and GLP-1 receptor agonists),[1] rapidly increasing number of biosimilars[2] and uncountable number of generics? Reasonable question. Does it make sense to invest billions of dollars in messy global cardiovascular outcomes trials (as requested by diabetes drug development guidelines[3]) or to play love attraction games with payers[4] so they "fall in love" with the "new" pill (most often combo with the good old metformin)?

Well….I believe someone is missing in this picture. Obviously, those four players forget the Patient. And the ability to ask a bit more simple and rational questions, such as "*Do we have adequate glycemic control of diabetes in the presence of all those therapies*"?

I know that such question would add "noise" in the discussion from the different parties returning back the ball to the patients, who do not have proper life style and as well as knowledge on the condition.[5,6] Question is: Could they?

To avoid entering a philosophical thoughtfulness that we do not live a perfect world, I will answer directly the main question of this Opinion. Yes, we desperately need breakthrough therapies for diabetes. Not therapies that mimic the current ones (long or ultra fast acting versions, combos or biosimilars). We need therapies that do not complicate the natural way of thinking (and living) by adding the next complex scheme (currently named "personalized").

At the end of the day, diabetes per se is loss of pancreas function and the only way to restore this loss is to develop therapies that restore pancreas cells.

Two companies pioneer the field: ViaCyte and Mesoblast. Though their approach is different they both target regenerative stem cells and I believe this is the future. Couple of other companies use iPS cells for different indications (just to mention BioTime, Inc [oncology and orthopaedics], Vericel Corporation [rheumatology and cardiomyopathy] among many others).

Major concern for all anti-diabetic therapies is cardiovascular safety profile. As a matter of fact, previous treatment recommendations for "intensified" control of diabetes pushed medical practitioners to lower blood glucose beyond physiological equilibrium[8] and this led to an end of decade era of dogmatic schemes – however a positive outcome – leading the current guidelines to more flexible framework.

ViaCyte has entered Phase II programme for T1DM using implantable subcutaneous devise,[9] following positive Proof of Concept studies.

While Mesoblast Allogeneic Mesenchymal Precursor Cells (MPCs) not only excel positive on glycaemia; they also promote additional heart and renal protective effects, which will be further tested in global Phase III trials.[10]

CONFLICTS OF INTEREST

The author declares no conflict of interest.

REFERENCES

1. American Diabetes Association. Standards of medical care in diabetes-2015 abridged for primary care providers. *Clin Diabetes.* 2015; 33(2): 97-111. doi: 10.2337/diaclin.33.2.97

2. Biosimilar insulins. Biosimilars-what you need to know? Diabetes UK. Available at: https://www.diabetes.org.uk/About_us/News/Biosimilars-update/ 2014; Accessed 2015.

3. Shuren J. Guidance for industry diabetes mellitus-evaluating cardiovascular risk in new antidiabetic therapies to treat type 2 diabetes. Available at: https://www.federalregister.gov/articles/2008/12/19/E8-30086/guidance-for-industry-on-diabetes-mellitus-evaluating-cardiovascular-risk-in-new-antidiabetic 2008; Accessed 2015.

4. Mozeson M, Das N. The Pharma/Payer Relationship. *The Pulse: The Wharton Health Care Journal.* 2010.

5. Shuman J. Strategies for improved treatment adherence in type 2 diabetes. Available at: http://www.medpagetoday.com/resourcecenter/diabetes/Strategies-Improved-Treatment-Adherence-Type-2-Diabetes/a/31638 2012; Accessed 2015.

6. Stuart BC, Dai M, Xu J, E Loh FH, S Dougherty J. Does good medication adherence really save payers money? *J Med Care.* 2015; 53(6): 517-523. doi: 10.1097/MLR.0000000000000360

7. Schmieder RE, Gitt AK, Koch C, et al. Achievement of individualized treatment targets in patients with comorbid type-2 diabetes and hypertension: 6 months results of the DIALOGUE registry. *BMC EndocrDisord*. 2015; 15: 23. doi: 10.1186/s12902-015-0020-7

8. Psaty BM, Furberg CD. Rosiglitazone and cardiovascular risk. *N Engl J Med.* 2007; 356: 2522-2524. doi: 10.1056/NEJMe078099

9. ViaCyte. A service of the US National Institutes of Health. Clinical Trails. Available at: https://clinicaltrials.gov/ct2/show/NCT02239354?term=viacyte&rank=1 2014; Accessed 2015.

10. Positive Diabetic Nephropathy Trial Results presented at ADA 2015 Meeting. Available at: http://mesoblast.com/news-and-media/news-announcements 2015; Accessed 2015.