

Clinical Aspects and Gender Difference in Type-1 Diabetes

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Introduction

The quite complete or complete absence of insulin is a common pathophysiological ground shared by many different genetic and environmental causes of type 1 diabetes. Almost all of the body's organs can develop complications as a result of hyperglycemia. Numerous factors may affect these complications' appearance, severity, and location. The extent of blood sugar control, the length of the illness, the patient's age, the type of insulin used as a replacement, the number of injections, the range of residual endogenous insulin secretion, the sensitivity of the peripheral tissue to injury, the swings in blood glucose (glucose variability), and last but not least the sexual, genetic, and hormonal environments are among them. Although there aren't many studies that take this factor into account, sex is the easiest of these factors to manage. Not all men and women were created equally. Gender differences affect most of the organs and go much deeper than the reproductive/sexual dimorphism [1].

About the Study

No specific age was given, but it was noted that women were more likely to experience symptoms and seek medical attention. Although diabetic men with advanced disease may experience the phenomenon of erectile dysfunction, which causes serious depression and the tendency to give up the cure, this review shows that male diabetics are observed to be living more effectively with diabetes, with less depression and anxiety and more energy and better wellbeing. Women probably experience a similar sex dysfunction with vaginal dryness, but this has not been thoroughly researched. The topic is further complicated by the more complex sex-arousal mechanism found in the female body, as well as relevant psychic influences [2].

According to a few studies, women may be more inclined to conceal their failure to take insulin as prescribed, which may lead to feelings of guilt and blame. This may be partly due to the phenomenon known as "cheating," in which girls and young women voluntarily reduce their insulin dosage because they are aware that hyperglycemia in diabetes causes weight loss. This is especially true in these days of social media exposure, when young people are being inspired by models of fitness and beauty.

On how insulin acts differently in type 1 diabetes in each sex, there are very few data available. From the data of men and women patients with type 2 diabetes, we can infer some pertinent information to clarify Type 1 diabetes. We believe that some data from the much more metabolically complex type 2 diabetes, which affects both men and women equally, can be used to partially understand the gender differences in type 1: There were no differences in the effects of insulin on lipolysis in men and women; the data on the regulation

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of triglyceride and protein metabolism by insulin in men and women were too sparse to draw firm conclusions; and there might be differences in the insulin-sensitizing effects of exercise and weight loss in men and women. Women appeared to be more sensitive to insulin in regard to glucose metabolism (both in the liver and in muscle) [3,4].

The type 1 diabetes gender gap is still very much open. We still don't have a clear understanding of how differently males and females control their blood sugar levels biologically. In the case of females, we lack sufficient knowledge of what transpires at various ages-prepubertal, postpubertal reproductive, and postmenopausal-and what triggers any change. To effectively treat patients with diabetes mellitus, this information is probably pertinent. We have long known that the combined effects of pharmacodynamics (the effect of insulin on the body) and pharmacokinetics determine the overall effect of insulin on the body (effect of the body on insulin). We currently know more about pharmacodynamics than pharmacokinetics, particularly in women. To come up with a treatment that works, we must shed some light on this [4,5].

Conclusion

Finally, there is no concrete information on the gender differences in type 1 diabetes mellitus. Although this may vary across populations, it seems that males are more frequently affected by the condition and that females have higher insulin sensitivity. This aspect might be important when using insulin and when treating hypoglycemia in emergency situations. As a result, treatment with male hormones seems to make women more insulin resistant, and this hormonal effect could be the reason why men have lower insulin sensitivity. Future research should make it possible to better tailor insulin treatment for people of both sexes.

Conflicts of Interest

The authors declare no conflict of interest.

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