

8<sup>th</sup> Euro Global

# Diabetes Summit and Medicare Expo

November 03-05, 2015 Valencia, Spain

## SOCS-2 influences diabetes development induced by MLD-STZ in mice

Mercedes Mirecki-Garrido<sup>1</sup>, Amira Alkharusi<sup>2,3</sup>, Ma Zuheng<sup>2</sup>, Fahad Alzadjali<sup>3</sup>, Amilcar Flores-Morales<sup>4</sup>, Thomas Nyström<sup>2</sup>, Anneli Björklund<sup>2</sup>, Gunnar Norstedt<sup>2</sup> and Leandro Fernandez-Pérez<sup>1</sup>

<sup>1</sup>Las Palmas de Gran Canaria University, Spain

<sup>2</sup>Karolinska Institute, Sweden

<sup>3</sup>Sultan Qaboos University, Oman

<sup>4</sup>University of Copenhagen, Denmark

Currently there has been a rapid increase in the prevalence of diabetes and associated metabolic disorders. Identifying the molecular mechanisms responsible is essential to develop effective strategies. An insufficient number of insulin-producing  $\beta$  cells is a hallmark of both type 1 and type 2 diabetes. SOCS proteins are powerful inhibitors of pathways involved in survival and function of pancreatic  $\beta$  cells also are potent regulators of pro-insulin processing and insulin secretion in  $\beta$ -cells. Moreover, constitutive production of SOCS-2 in  $\beta$ -cells leads to hyperglycaemia and glucose intolerance. It is the rationale to investigate, how SOCS-2 ablation may influence the development of diabetes in a mice model of autoimmune diabetes and  $\beta$ -cell destruction (multiple low-dose of streptozotocin (MLD-STZ)). To analyze SOCS-2 glucose homeostasis and metabolism, all diabetes development parameters were monitored, and both MLD-STZ-treated SOCS-2<sup>-/-</sup> and WT mice developed severe diabetes after day 9 from injecting first dose of STZ. However, SOCS-2<sup>-/-</sup> mice were more resistant to develop diabetes. Also our results suggest higher degree of insulin sensitivity with SOCS-2 ablation. Moreover, we further observed higher fasting plasma insulin and the higher HOMA-IR in MLD-STZ- treated SOCS-2<sup>-/-</sup> mice. Taken together, the results suggest that SOCS-2 ablation seems to compensate  $\beta$ -cell destruction induced by MLD-STZ. The insulin immunostaining assays showed that SOCS-2<sup>-/-</sup> pancreas have higher  $\beta$ -cell mass and bigger islets size than the control WT pancreas. These results seems to explain the augmented serum insulin levels observed in SOCS-2<sup>-/-</sup>, also when treated with the STZ a destruction in the  $\beta$ -cell of the WT was observed, but some conserved structures could be find in the SOCS-2<sup>-/-</sup>. In summary, this study identified SOCS-2 as an important regulator of insulin homeostasis in vivo and suggests that inhibition of SOCS-2 may be used as therapeutic target to ameliorate diabetes development.

[m.mirecki@me.com](mailto:m.mirecki@me.com)

## The main sources of anxiety and dissatisfaction of gestational diabetes mellitus patients determined by content analysis of their blogs

Ralph Jason S Li

Philippine General Hospital, Philippines

Various studies show that patients with gestational diabetes mellitus (GDM) have increased anxiety from various sources. However, studies showed that patients are hesitant to give information during consult. Thus, content analysis of blogs by GDM patients is helpful in elucidating the anxieties/dissatisfactions that patients are hesitant to divulge to their physicians. This study determined the sources of anxiety/dissatisfaction of GDM patients by content analysis of their blogs shared within tweets with #Gestational diabetes from 2006 to July 2015. This study involved 3 phases. The first is an online search of blogs of GDM patients followed by characterization of the bloggers and the blogs. The last phase is content analysis of blogs to determine the sources of anxiety/dissatisfaction. Fifty-six blogs were included. Most of the bloggers were from the USA (70%), were in the 3rd trimester when blog was written (32%), and were on diet only treatment (59%). Most blogs expressed negative sentiment (54%). The most common source of anxiety/dissatisfaction is symptoms/side effects (18.96%), followed by treatment (18.25%). Sub-analysis of the sources of anxiety/dissatisfaction by region showed that the most common are treatment (20.07%), symptoms/side effects (18.89%), and treatment (28.57%) in North America, Europe, and Australia/Asia, respectively. Sub-analysis by type of treatment showed that the most common sources are disease notification (16.30%), anxiety/dissatisfaction not otherwise specified (27.37%), and treatment (34.21%) for those on diet alone, on diet+oral hypoglycemic agent, and on diet+insulin, respectively. This study provides insight into the different sources of anxiety and dissatisfaction in GDM patients through blogs. Regional and treatment type differences in the main sources of anxiety/dissatisfaction occur in GDM patients.

[ralphjasonsiali@yahoo.com](mailto:ralphjasonsiali@yahoo.com)