IDF Congress 2019

2-6 December

Busan

Korea

PROGRAMME BOOK

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International Diabetes Federation

BUSAN TOURISM ORGANIZATION

KOREA TOURISM ORGANIZATION

WeMICE

12:50 **Effects of INtegrating DEPrEssioN and Diabetes TreatmENT (INDEPENDENT) in India: a randomized controlled trial** OP-0062
M. Ali, L. Chwastiak, P. Subramani, K. Emmert-Fees, S. Patel, A. Mohan, A. Sosale, G. Sridhar, R. Sagar, N. Tandon, K.V. Narayan, M. Viswanathan

12:55 **Association of serum magnesium levels with glycemic control in patients with type 2 diabetes mellitus** OP-0063
S. Mudjanarko, H. Nasution

DIABETES AND WOMEN

12:00–13:00 Oral Poster Theatre 4

Diabetes and women 1

Chair: E.G. Hong (South Korea)

12:00 **Non-diabetes range HbA1c is associated with lower sleep duration and efficiency in women with recent history of GDM** OP-0089
N. Sukumar, H. Dallosso, A. Rowlands, P. Highton, J. Wilson, S. Selvamoni, T. Ritchie, K. Shorthose, T. Yates, M. Davies, K. Khunti, P. Saravanan

12:05 **Cost-effectiveness of a postnatal diabetes prevention program for women with previous gestational diabetes** OP-0090
S.T. Shih, R. Carter, V. Versace, S. O'Reilly, E. Janus, J. Dunbar

12:10 **Impact of gestational diabetes mellitus on infant body composition** OP-0091
C. Bagias, N. Sukumar, I. Goljan, T. Truslove, K. Shorthose, J. Plester, Y. Weleselassie, P. Saravanan

12:15 **Role of WISP1 in the pathogenesis of insulin signaling pathway in gestational diabetes mellitus** OP-0092
L. Liu, S. Xu, L. Tang, L. Li

12:20 **Impact of hormone replacement therapy on glycaemic homeostasis in menopausal diabetic women** OP-0093
I. Bitoska, S. Jovanovska Mishevska, I. Ahmeti, B. Krstevska, B. Todorova

12:25 **Association between treatment modality in gestational diabetes mellitus and objectively measured neonatal adiposity** OP-0094
C. Bagias, K. Shorthose, N. Sukumar, A. Gopinath, I. Goljan, Y. Weleselassie, P. Saravanan

12:30 **Type 1 diabetes women's views about preconception care – a qualitative study.** OP-0095
A. Paiva, J. Raposo, A. Forbes

12:35 **Comparison of birth weight centile calculators, Intergrowth, WHO, modified WHO and GROW** OP-0096
Y.G. Weldeselassie, N. Sukumar, P. Saravanan

12:40 **Twenty-two years results of the Israeli-Georgian program diabetes in pregnancy** OP-0097
N. Asatiani, R. Kurashvili, E. Inashvili, E. Shelestova, M. Dundua, M. Hod

OP-0093 Impact of Hormone Replacement Therapy on Glycaemic Homeostasis in Menopausal Diabetic Women

Iskra Bitoska, Sasha Jovanovka Mishevska, Irfan Ahmeti, Brankica Krstevska, Biljana Todorova
University Clinic of Endocrinology, Diabetology and Metabolic Disorders, Skopje, Macedonia

Among postmenopausal women, those with diabetes experience more cardiovascular diseases than those without diabetes. In these women, the changes in sex-hormone levels, abdominal fat, and insulin metabolism that accompany menopause may represent additional impediments in achieving good glycemic control. There is evidence that exogenous estrogens might reduce some of these adverse changes.

The aim of this study was to examine whether HbA_{1c} levels are influenced by current HRT among postmenopausal women with type 2 diabetes in insulin naïve patients.

Methods

A total of 60 postmenopausal women in natural menopause with type 2 diabetes were enrolled. Half of them were assigned to take HRT . The other half made the control group, not taking HRT. Both groups were at the beginning of their postmenopausal period. HRT consisted of 17 β - estradiol (E2) 1 mg and drospirenone (DRSP) 2 mg . Fasting plasma glycaemia, insulinemia and HbA1C were followed in both groups throughout 24 months.

Results

Table 1. ***Baseline characteristics of postmenopausal women by HRT status***

	Women on HRT (n = 30)	Women not on HRT (n = 30)
Age (years)	49 ± 3.3	48.5 ± 3.1
BMI (kg/m²)	27 ± 3.32	28.3 ± 2.4
Fasting plasma glucose (mmol/l)	7.8 ± 0.86	8.0 ± 0.9
HbA1C (%)	7.6 ± 0.54	7.9 ± 0.5
Insulinemia(µU/ml)	12.2 ± 3.41	12.3 ± 3.2

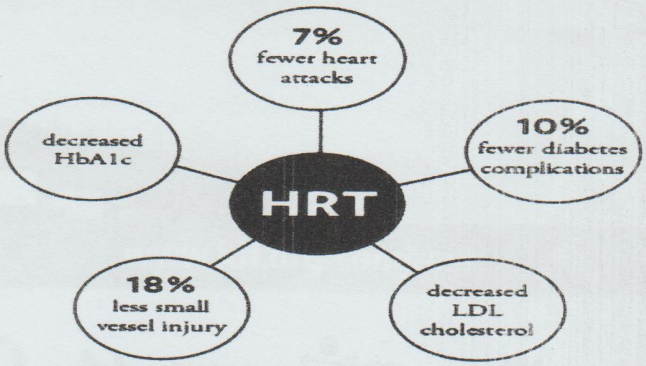
Table 2. ***Effects on HRT on Fasting Plasma Glucose, HbA1C & Insulinemia***

	Women on HRT (30)		Women not on HRT (n = 30)	
FPG (mmol/l)				
Baseline	7.8 ± 0.86	p< 0.001	8.0 ± 0.9	p=0.66
24 months	6.9 ± 0.6	S	7.8 ± 1.1	N/S
HbA1C %				
Baseline	7.6 ± 0.54	p<0.001	7.9 ± 0.5	p=0.47
24 months	7.2 ± 0.43	S	7,7 ± 0.4	N/S
Insulinemia (µU/ml)				
Baseline	12.2 ± 3.41	p<0.001	12.3 ± 3.2	p= 0.08
24 months	10.4 ± 2.92	S	13.1 ± 3.7	N/S

Discussion:

Impaired glucose tolerance, decreases in insulin sensitivity, and hyperinsulinemia are all known to lead to elevated blood glucose levels and to increase the risk of CAD. Estrogen may reduce the risk of CAD through modifying these elements of glucose metabolism and improving glucose homeostasis. Most studies have evaluated fasting or 2-h insulin and glucose levels. Some studies have shown that estrogen use decreases fasting insulin levels , whereas others have revealed little or no association between HRT and fasting insulin levels . This is also the case for fasting glucose levels. To assess the association between estrogen and glycemic control, we measured HbA_{1c} in postmenopausal women. In addition, measuring glycohemoglobin is reportedly more sensitive than measuring fasting plasma glucose, although some reports have suggested the convers. HbA_{1c} increases with age and BMI affects the age-dependent increase in HbA_{1c} Therefore, in our study, we only observed the HbA_{1c}-lowering effect of HRT in postmenopausal women at the beginning of their menopausal life span.

In conclusion, our study indicates that continuous oral HRT results in a significant HbA_{1c}-lowering effect in postmenopausal women given shortly after entering menopause. In our opinion, HRT, given in the first 2-3 years after entering menopause, might be the key point in improving glucose homeostasis in diabetic postmenopausal women.



Ferrara et al, Diabetes Care 2001

Larger randomized, placebo-controlled trials and studies elucidating the cellular mechanisms to explain the age-related effects of HRT on HbA_{1c} levels are necessary, if we could expect the beneficial effects of HRT on glycemic control in younger postmenopausal women.

That way we would come to more precise conclusions and the bigger degree of certainity about the usefullnes of HRT. However,we conclude that decisions about HRT should be taken on a case-by-case basis, and in doing so,it is important to include the potential personal benefits and risk profile, especially in high-risk postmenopausal women.

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Sources:1. Perry Rc et al Diabetes Care 2001, 2.Ferrara et al. Diabetes Care 2001, 3. Rohlfing Cr et al, Diabetes Care 2000, 4.OhYu et al, Diabetes Care 2002, 5. Haffner SM et al, Metabolis 2001