

Biorhythms of Contrinsular hormones in Pregnant with Type 1 Diabetes Receiving Insulin with Pump Therapy and Multiple Injections.

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Introduction:

Pregnancy has an impact on the course Type 1 Diabetes (T1D), which is a result of changes in the production of different hormones and their biorhythms.

Aim:

To examine circadian Biorhythms of Contrinsular hormones (BCh) contribution in the morning postprandial glycaemia depending on the type insulin therapy.

Methods:

The study involved of 91 pregnant with T1D in 31-34 weeks on a background the maximum insulin resistance. Evaluation of circadian BCh (cortisol, progesterone, placental lactogen) held on the results of the ELISA (DRG, Germany) serum samples, picks up in 3.00, 7.00, 12.00 am, 5.00, 10.00 pm.

Indicators of circadian biorhythms contrinsular hormones are presented in the table in order of decreasing effect on glycaemia.

Table – The indicators circadian biorhythms contrinsular hormones in pregnant women with type 1 diabetes in the 3rd trimester of pregnancy.

M±m	Min	Max	Acrophase, hours	Minifase, hours
Cortisol, ng/ml				
313,12±45,07	186,55±27,09	535,95±69,75	7	3
Progesterone, ng/ml				
306,65±11,11	127,3 ±17,42	440,0±30,54	17, 22	7
Placental lactogen, mg/l				
7,27±0,297	2,23±0,261	20,34±1,423	17	22

Results:

The estimation of cortisol levels dynamics in acrophase marked invariable, which accounted at 7.00 am, and minifase - at 3.00 am regardless of the type of insulin therapy. The acrophase of placental lactogen accounted at 5.00 pm, at the same time minifase - at 10.00 pm and does not depend on the type of insulin therapy. The opposite results we get after estimation of progesterone levels. Progesteron acrophase accounted at 5.00 pm on the pump therapy and at 10.00 pm on multiple injections of insulin. Minifase of progesterone in both cases accounted at 7 am.

Conclusions:

Expressed of insulin resistance in the first half of the day determine the need for the use of high carb ratios for breakfast in order to achieve target levels of postprandial glycaemia is caused by cortisol acrophase and not placental lactogen and progesterone, which are laminated to the maximum mezor these hormones in 3rd trimester. The use of pump insulin therapy accompanied by a shift of progesterone acrophase, which may be a factor in optimizing the quality of insulin therapy.

