The glycemic index and insulin-index of one Finnish honey sample

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Honey research -playground in Finland

Customer survey -> taste, healthiness, usage

- Easy to use -> development of liquid honey

- Functional properties:

    - Paul, I.M. & al 2007, children cough

    - Olofsson, T. & Vazqes 2008, malic acid bacteria

    - Zaat, S. 2010, defensin-1

- Sport drink test, Likes, Jyväskylä

- Antibiotic properties, Kuopio

- Properties of North Carelian hoenys, Anneli Salonen, Joensuu

Objective, (why do do this?)

Customer based product and information development

- **Arguments for saleswork**

  -> better profitability and changig from price cometition toward new markets
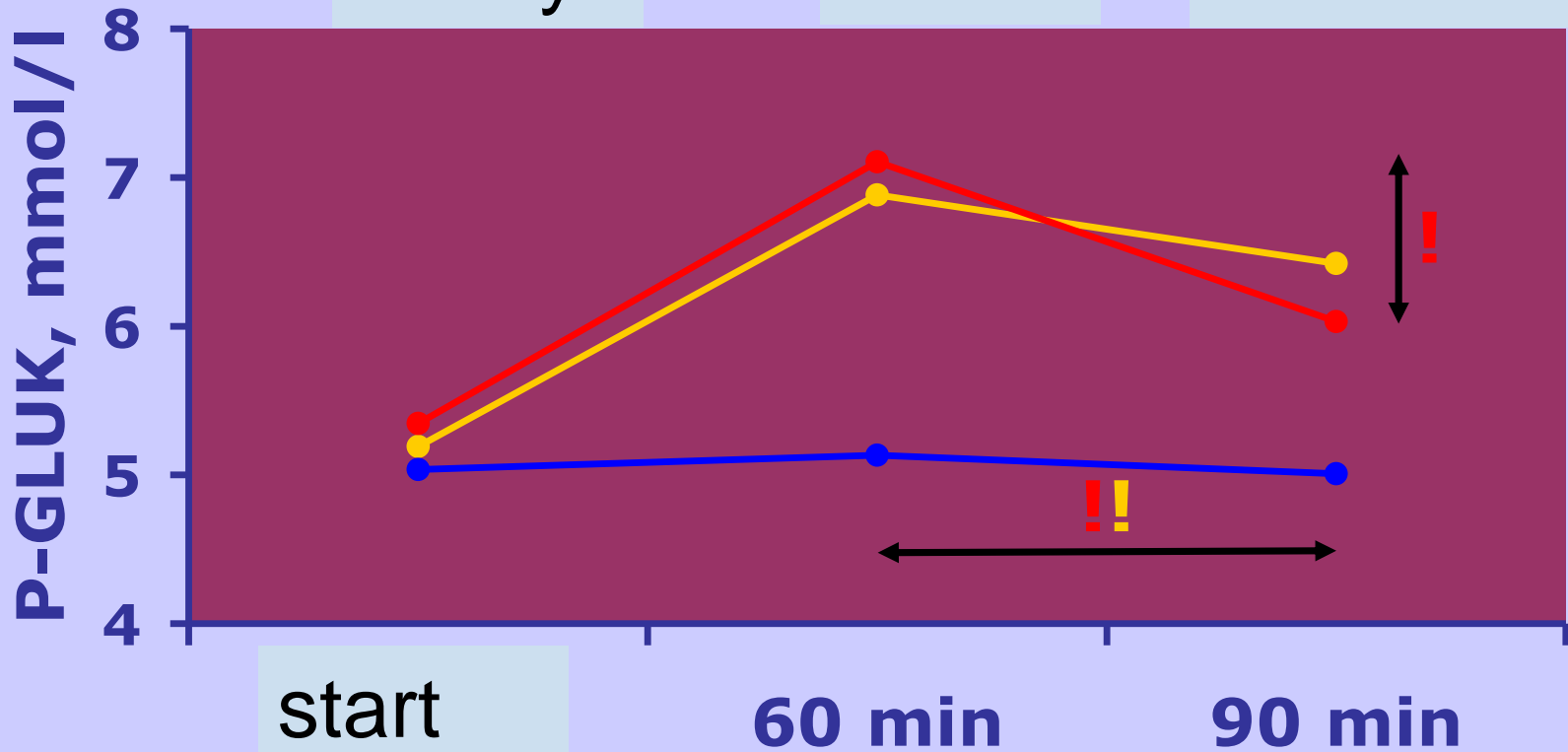
  -environmet, etical, food properties

Honey Sport drink research 2008

- cykling n=10, (2 ♀ + 8 ♂):
- running n=8, (6 ♀ + 2 ♂):
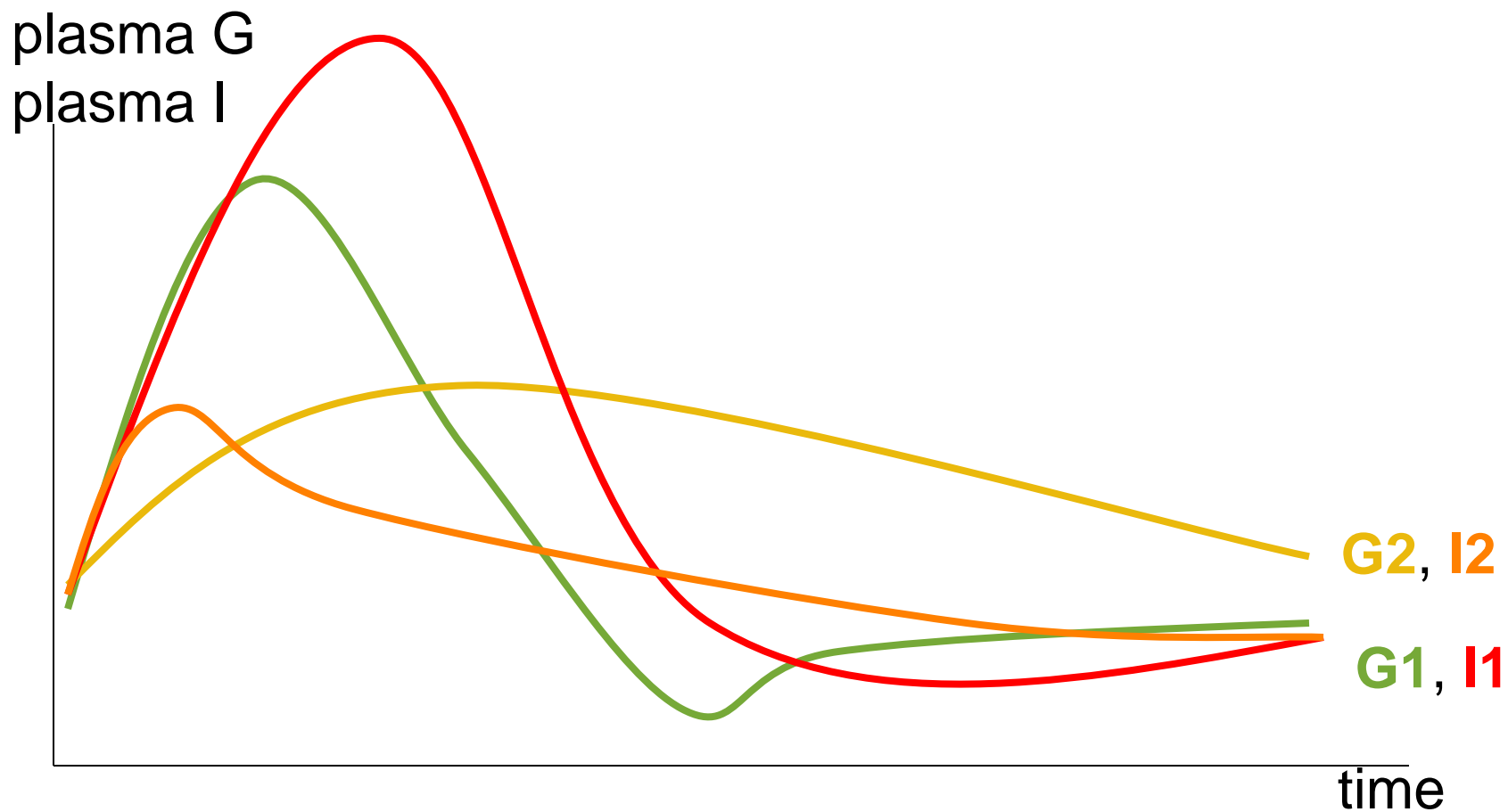- Duracel –testi, honey drink, commercial sport drink, water

Blood sugar, running

honey   water   control

P-GLUK, mmol/l

start   60 min   90 min

Fast (1) ja Slow (2) carbonhydrates

plasma G
plasma I

time

G2, **I2**

G1, **I1**

GI

- GI = glygaemic index is the value comparing sugar response curves between 50 grams glucose response curve to the 50 g of test food product sugar response curve

- To get the control curve on glucose, the tests persons are tested 3 times with 50 g glucose usually within 12 days

- After that a test person can be used 3 months for max 12 food products

- The test persons take the tested food product so that they get 50 g digestible carbon hydrates

II

- II = Insulin index is the value comparing inslulin response curves between 50 grams glucose response curve to the 50 g of test food product sugar response curve
- The control values for a test persons are counted as a mean of 3 times 50 g glucose response tests and one person can be a test person for 3 months
- The Insulin is measured un directly by measuring the serum C –peptide levels
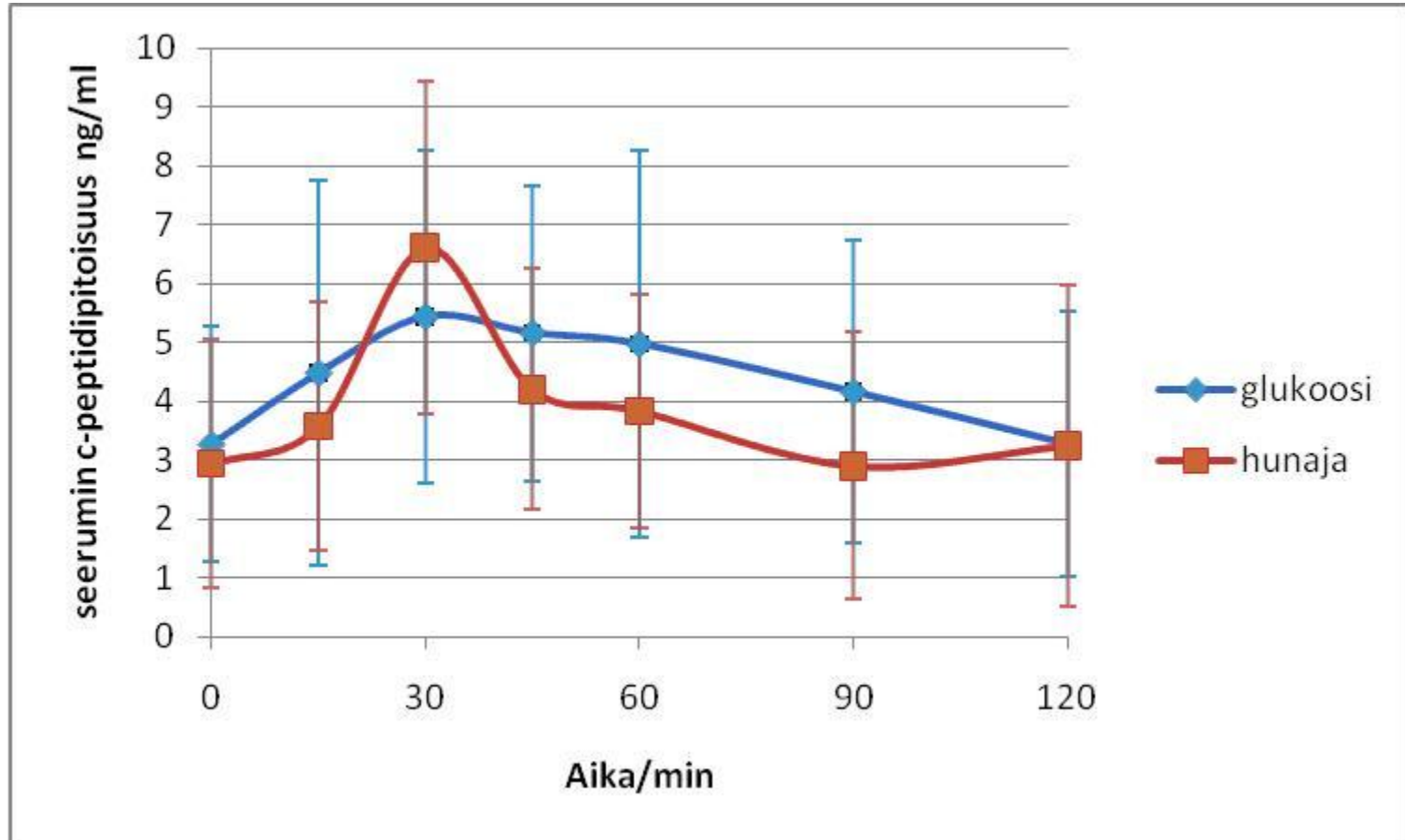 - 1 mol Proinsulin -> 1mol insulin + 1mol C-peptide

Testing

- N = 9 (miehiä3, naisia 6)
- 300 liquid, 68 g honey = (50 g sugars)
- 7 blood samples in 2 hours

The response of the serum glucose level (mg /dl) to honey
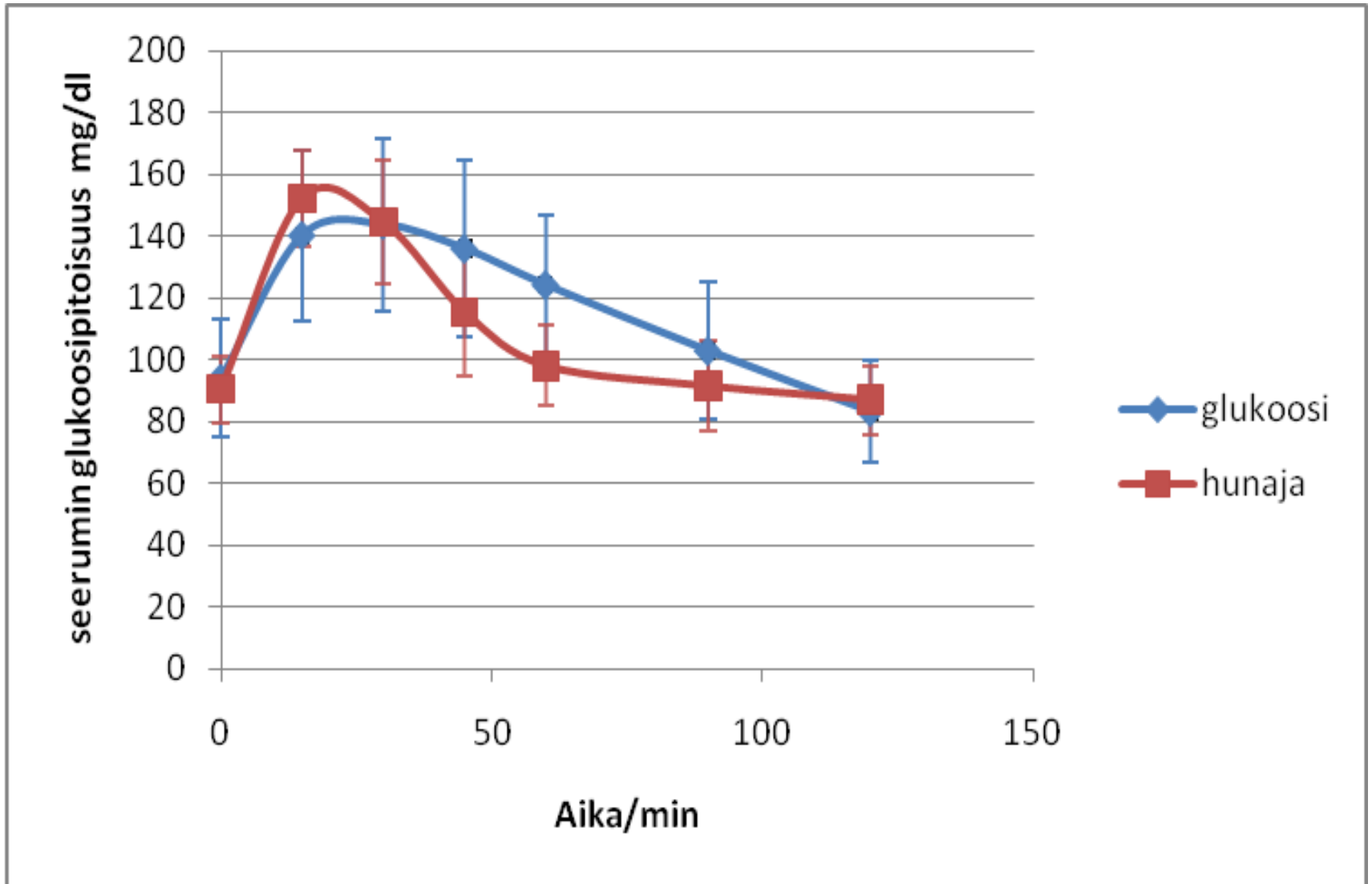
The response of the serum C-peptide level (mg /dl) to honey

Test person	GI-value	Insulin -index
1	67	16
2	68	88
3	160	117
4	94	122
5	125	75
6	48	63
7	70	12
8	80	175
9	109	49
mean	**89**	**80**
sd	*34,9*	*52,6*

Conclusions

- Gi is comparative high 89
  - (in literature 55 – 75)
- Rather big SD
  - Why tehere are so big differencec between test persons ???

  - Kiitos!