

## **Beijing – Haidian Hospital**

### **Tsinghua University's Non-invasive Glucose device sample clinical trial**

The paragraphs below explain, Tsinghua University's discussion group led by Professor Tang Fei, regards to the Metabolic Heat Conformation method, multiple index non-invasive glucose device carried out in Beijing Haidian Hospital, using Prototype and Health Perception Computer:

#### **Metabolic Heat Conformation, a multiple index non-invasive glucose device clinical trial experiment**

**Purpose:** To compare the viability and accuracy of a measurement tool by non-invasive glucose device against measurement tool by automated biochemical analyzer

**Method:** Each test subject runs non-invasive glucose device tests in four following conditions: fasting; one hour after orally ingested glucose; two hours after orally ingested glucose; three hours after orally ingested glucose.

**Location:** Beijing Haidian Hospital

**Test subjects:** OGTT(Oral Glucose Tolerance Test) patients. Two tests are done separately in year 2012 and 2013.

**First experiment:** 2<sup>nd</sup> March 2012 – 7<sup>th</sup> May 2012, 4<sup>th</sup> September 2012 – 2<sup>nd</sup> November 2012.

**Experiment device:** Two metabolic heat conformation, multiple index non-invasive glucose device prototype (as appeared in pic 1)

**Data collected:** 176 pieces of data collected out of 44 test subjects.

**Second experiment:** 6<sup>th</sup> November 2013 – 8<sup>th</sup> Jan 2014,

**Experiment device:** Two metabolic heat conformation, multiple index non-invasive glucose device, Health Perception Computer (as appeared in pic 2)

**Data collected:** 196 pieces of data collected out of 49 test subjects( Within 49 subjects, 35 test subjects consist of normal and impaired glucose tolerance, 14 test subjects are type 1 and 2 diabetics). Normal and impaired glucose tolerance are considered group A, and type 1 and 2 diabetics are considered group B.



图一 无创血糖仪样机



图二 无创血糖仪打机

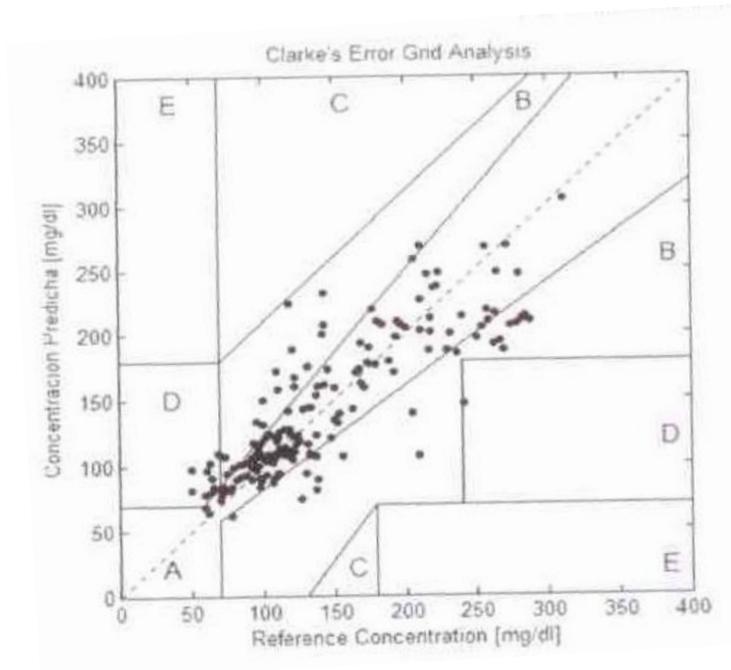


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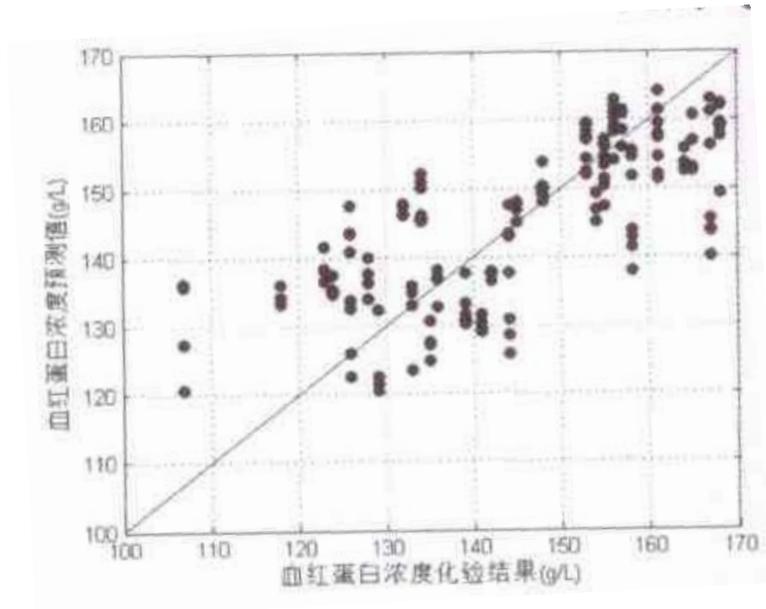
### Haidian Hospital Experiment result

**Haidian Hospital First Experiment result:** as shown below

- Blood glucose data fitting result: using Clarke's Error Grid: Experiment result vs. Automated Biochemical Analyzer.



Correlated Coefficient: 0.85. Region A/B/C/D/E: 122/44/0/10/0

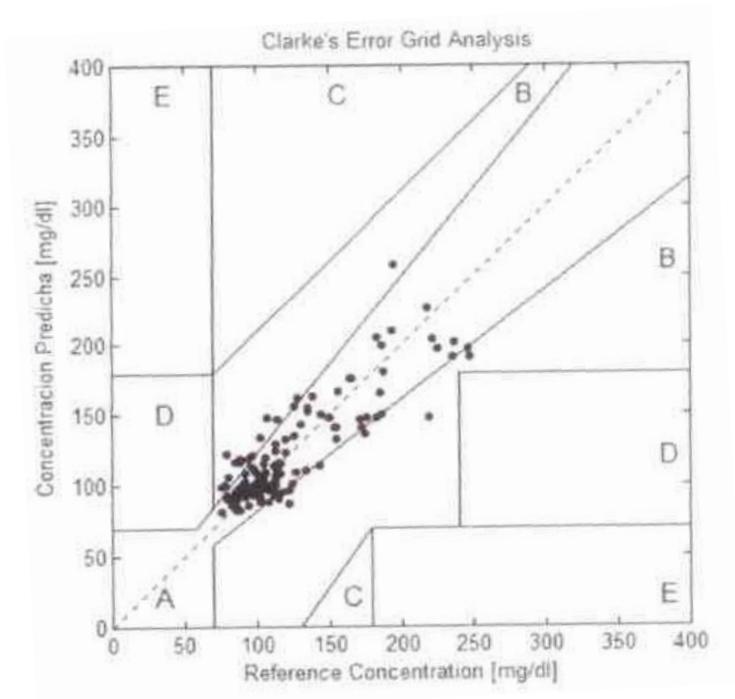


- Haemoglobin Concentration data fitting result(automated biochemical analyzer vs experiment result)

Correlated Coefficient: 0.73

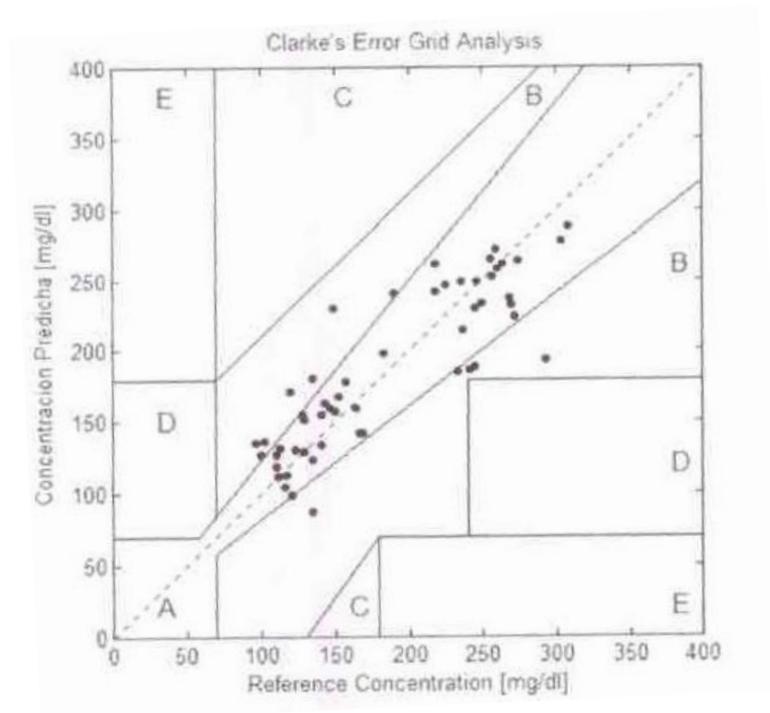
**Haidian Hospital Second Experiment result:** as shown below

- Blood glucose data fitting result: using Clarke's Error Grid: Experiment result vs. Automated Biochemical Analyzer



Group A: Normal and Impaired Glucose Tolerance Correlated coefficient: 0.8715

Region A/B/C/D/E: 119/21/0/0/0



Group B: Type 1 and 2 diabetic patients Correlated coefficient: 0.8075.

Region A/B/C/D/E: 42/14/0/0/0