

## Bardi's Manoeuvre: GH-RH on bedside Diagnosing Insulin-Secretion and Arterial Hypertension with the Aid of Quantum Biophysical Semeiotics

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### Introduction.

Among other well-known biological activities, Growth Hormone (GH) plays an important role in metabolism, in blood pressure regulation, as well as the regulation of insulin secretion from the  $\beta$ -pancreatic cells, additionally acting as a stimulant for GH-RH secretion (analogously, e.g., thyroid hormone) (1-8).

Interestingly, the emerging age of Quantum-Biophysical Semeiotics allows general practitioners to assess the pancreas' chaotic-determinist oscillations (fluctuations – 6 x sec. – of the vertical diameter of the pancreatic body) (1-8), correlated with functional endocrine activity of the gland

(<http://www.semeioticabiofisica.it>, Technical Page 4), and studying the acute stimulation of GH-RH secretion, brought about by “mean-intense” digital pressure applied on the related trigger-points (Fig.1 and 2): See Bardi's Manoeuvre at URL

<http://sergiostagnaro.wordpress.com/2013/10/07/manovra-di-bardi-affidabile-semplice-e-di-rapida-applicazione-nel-riconoscere-in-10-secondi-i-falsi-negativi-in-semeiotica-biofisica-quantistica/>.

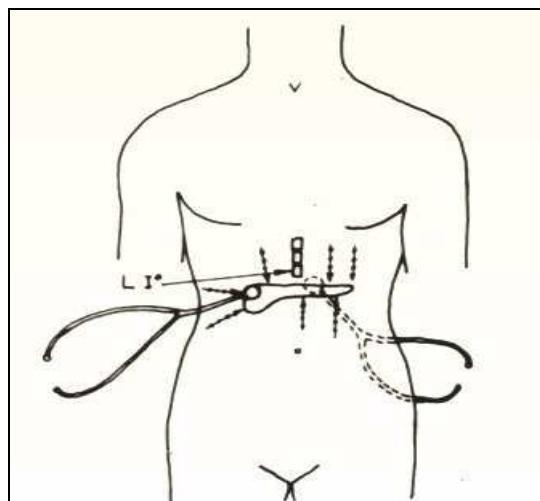


Fig.1

**Figure 1.**

*The figure shows clearly the right location of the bell-piece of stethoscope, unavoidable in performing the auscultatory percussion of pancreas, according to anterior (advisable from the practical view-point) and posterior way.*

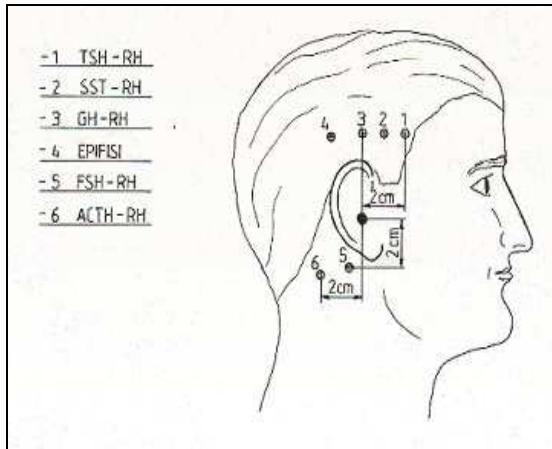


Fig.2

### **Figure 2.**

*The cutaneous trigger-points, upon which digital pressure has to be applied to stimulate diencephalic neuronal centre of GH-RH, are located 2 cm. above external auditory meatus.*

Consequently, with the aid of the Quantum-Biophysical Semeiotics, the practitioner can evaluate at the bedside endocrine pancreas efficiency during the acute stimulation of the GH-RH and, thereby, obtaining useful and reliable GH information regarding current insulin secretion activity and efficiency (1, 2, 4, 7, 8).

Moreover, **quantum-biophysical-semeiotic preconditioning** (9), (also <http://www.semeiotabicofisica.it> ), enables the practitioners to gather information (using the variables of Auscultatory Percussion and so-called Auscultatory Percussion-Reflex-Diagnostic, which studies non-linear dynamics of all biological systems) about the patient's condition, as well as the possible insulin secretion evolution: physiological insulin secretion, hypersecretion of insulin (IIR) with or without initial failure of the pancreatic  $\beta$ -cells (prediabetes), overt type 1 and type 2 diabetes mellitus, even in early phase.

Finally, bedside evaluation can also reveal pancreatic endocrine activity, employing analogously other endogenous hormones of insulin counter-regulation (i.e., thyroid hormone, glucagone, adrenalin, GH-RH) (6, 7).

### **Method.**

With the subject in supine position, psycho-physically relaxed (with eyes open to minimize the melatonin secretion), the practitioner performs repetitive auscultatory percussion of a short tract of the lower pancreatic margin, assessing accurately its fluctuations, chaotic-determinist under physiological condition (Fig. 1).

For comprehensible reasons, the gathered data are meal-dependent, showing different parametric values in relation to the meals, i.e., in the absorptive or in the post-absorptive state; in the practice, however, such as fact results neither important nor significant.

Notoriously, in overt type 2 diabetes, that is to say in manifest disorder, the dimensionality (i.e., value of deterministic chaos in a determined biological system, in our case the pancreas) fluctuations appear significantly and gradually reduced, all equal, and minimal, showing the fractal dimension of 1, i.e., topological dimension (6).

At this point, general practitioner applies “intense” digital pressure on the trigger-points of GH-RH neuronal centre, that is located 2 cm. over external auditory meatus (Fig. 2), evaluating accurately the pancreatic size behaviour.

In healthy, after approximately 6 seconds, the pancreas decongests suspending temporarily its secretive activity: the lower margin of the pancreatic body rises and remains in this higher position for **12 sec. exactly**.

In the absorptive state, the duration is approximately **14 seconds** (in a non significant manner).

Under this experimental condition, pancreatic microcirculation shows the phenomenon of “microcirculatory disactivation”, characterized from minimal microvessel activity, resulting from the lesser flow-motion: in both vasomotility and vasomotion, according to Hammersen (7) fluctuation intensity is hardly 0,5 cm., and the durartion of AL + PL phase appears to be 5 sec., (6, 8, 10,11, 12) (See the above cited web site <http://www.semeioticabiofisica.it/microangiologia>).

On the contrary, in the subject with insulin hypersecretion (IIR), the pancreas congestion (i.e., pancreatic functional rest) appears prolonged (<14 sec. significantly) in direct relationship with the intensity of insulin secretion (i.e., hyperinsulinaemia).

The behavior of the pancreas during the biophysical-semeiotic preconditioning is briefly illustrated, allowing general practitioner to immediately recognize insulin hypersecretion (IIR), with or without slow tendency to the  $\beta$ -pancreatic cell failure, and, lastly, overt type 2 diabetes.

In diabetes mellitus, even in its initial phases, the duration of pancreatic congestion appears significantly reduced ( $\geq 9$  sec.), in obvious relation the severity of the underlying disorder.

### **Bardi's Manoeuvre and insulin secretion**

Beside evaluation of insulin secretion during GH-RH stimulation provides important data regarding insulin secretion efficacy: Bardi's Manoeuvre.

In health, when digital pressure on GH-RH trigger-point is of “mean intensity”, the duration of the pancreatic volume increase (= lower body the margin is lowered) lasts **exactly 10 sec**, a result of the physiological activation of local Microcirculation (9, 10).

Interestingly, in hyperinsulinsecretion (IIR), one observes a large number of parameter (i.e., duration) behaviours, which parallel the present functional efficacy of the endocrine pancreas activity, in individuals with or without diabetic constitution (11).

On the contrary, in the Five stages of T2DM, lower body the margin lasts lowered > **10 sec.**, in relation to the seriousness of the impairment of insulin secretion.

### **Bardi's Manoeuvre and bedside Evaluation of Arterial Hypertension.**

Interestingly, Bardi's Manoeuvre allows doctor to bedside assess **Arterial Hypertension**, even in initial stage, i.e., Hypertensive Constitution:

In health, Bardi's Manoeuvre does not modify arterial Compliance: intense digital pressure, applied upon a large artery, e.g., femoral artery at groin, brings about choledochus, common bile duct, dilation of at least 2cm., showing normal compliance. Such a choledochus normal dilation lasts also under Bardi's Manoeuvre.

On the contrary, in hypertensive patient, under above-mentioned experimental condition, arterial Compliance is lowered (> 2 cm.) and appears significantly reduced under Bardi's Manoeuvre.

To assess both **Hypertensive Constitution** and **Arterial Hypertension**, the following original application of Bardi's Manoeuvre proved to be really reliable.

In health, Bardi's Manoeuvre, with "intense" digital pressure upon neuronal center of GH-RH, *simultaneously* causes kidney (and spleen) increasing lasting for 10 sec. exactly.

On the contrary, in every stage of Arterial Hypertension, starting from Hypertensive Constitution, kidney dilation appears after a Latency Time of 2-3 sec and last less than 10 sec. The alteration intensity of parameter values parallels the seriousness of underlying disorder.

## **Discussion and conclusions.**

Today, literature worldwide reflects an increased urgency for early recognition of the Metabolic Syndrome, and its risk factors (CAD, CVD, type 2 DM, AH, etc.) as well as its pathophysiological and clinical definition (13-15).

From the quantum-biophysical-semeiotic point of view (6, 12), the metabolic syndrome always precedes the Pre-Metabolic Syndrome, (for years and even decades), (See also <http://www.semeioticabiofisica.it/microangiologia>), and involves both sexes, with or without diabetes, but "all" experiencing dyslipidaemic complication.

The Bardi's Manoeuvre allows doctor to bedside recognize from birth diabetic Constitution and glucose metabolism impairment, as well as Hypertensive Constitution and Arterial Hypertension in easy and quick way.

For this reason, we can finally understand why glucose metabolism alterations and type 2 diabetes are present only in well-defined patient population with metabolic syndrome, as well as why doctors can now fortunately recognize numerous early clinical stages of the metabolic syndrome resulting in positive and favourable benefits in primary prevention..

## **Conclusion**

Because of the numerous and dangerous complications of Metabolic Syndrome in individuals with both dyslipidaemia and diabetes, large scale optimal primary prevention of metabolic syndrome, is needed to allow doctors the diagnostic clinical tool, to determine pancreatic endocrine complications and enabling future monitoring.

Bardi's Manoeuvre proved to be reliable and easy to perform.

Quantum Biophysical Semeiotic testing became a practical method and useful means for clinicians, to bedside assess insulin-secretion conditions, physiological and pathological, basal and under stress tests, including functional failure of pancreatic  $\beta$ -cells, even in the initial stage, as well as blood pressure raising.

In conclusion, Quantum Biophysical Semeiotic stress testing, as Bardi's Manoeuvre, proved to be a useful tool for diagnosis, therapeutic monitoring, and clinical research.

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