commentary

Malignant diseases

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In the last years of the previous century, I encountered some books that reported proves that energy intake was (positively) associated with malignancy over vascular risks [1]. Prevention was obtained by a mean 30% energy intake decrease. The book of reference 1 was repeatedly printed and published, but it is not alone [2].

Up to recent days, a 30% lifelong decrease of energy intake seemed as prohibitive in humans. This may be the explanation of the poor spread of the information on the association between cancer and energy intake. We have published that meals promoted by Initial Hunger (IH) may be "*easily*" trained and eliminate insulin resistance. This is accomplished by a loss of about 30% energy intake (Tables 1 and 2). Part of population does even not require the suggestion for a change in intake. After training, about a third of investigated adults or toddlers maintained the energy intake, Blood Glucose (BG), Resting Metabolic Rate (RMR) and insulin sensitivity that they had at recruitment [2]. The implementation of a meal pattern where meals are induced by IH is quite easy (IH meal pattern or IHMP) in past experience. Part of population adopts and maintains this meal pattern by free choice. Objectively, the adoption of Initial Hunger Meal Pattern (IHMP) creates a different life. Table 1 reports effects on energy metabolism, Table 2 reports effects on insulin sensitivity and Body Mass Index

(BMI). At recruitment, the investigated population presents individuals that have mixed levels of energy availability [2]. We approximately assess this energy availability by Blood Glucose (BG) that is correlated to other macronutrients. BG is representative of other nutrients because it is burnt out before other nutrients. Omega three fatty acids circulate in blood after 24 hrs from intake and BG for only two or three hours. Thus BG is a useful index of all energy availability in blood. The individual meal pattern in a time period, during a week, can be assessed by mean blood preprandial glucose that is measured 21 times, i.e., before three main meals in a week (MBG). Well, we found that each recruited toddler and recruited adult had his own individual MBG and maintained the personal MBG with poor variability [2]. The confidence interval within a week was 3.8 mg/dL [2]. The MBG informed on the habitual metabolic condition (energy availability and balance) in different times, with different diets and in different individuals. In case of divergence between estimation and portable measurement, mothers followed estimation. Subjects or parents measured capillary blood by glucometer (a portable potentiometer for whole blood glucose measurement: Glucocard Memory; Menarini Diagnostics; Florence, Italy) in the quarter-of-an-hour before they intended to take a meal. We identified a subject's error as the mean absolute difference between the portable device and autoanalyzer in the measurement of the same blood

Table 1: Initial hunger meal pattern, Effects on energy metabolism

Training	BEFORE	AFTER	BEFORE	AFTER
	Energy intake		**M B G**	
38 OW adults	1756 ± 585	1069 ± 487	86.8 ± 8.7	78.8 ± 6.8
40 NW adults	1852 ± 697	1270 ± 457	91.4 ± 7.7	80.1 ± 6.6
70 Toddlers	946 ± 230	749 ± 187	86.9 ± 9.4	76.4 ± 6.7
	R M R			
14 Toddlers	58.6 ± 7.8	49.0 ± 9.1		

Note: Assessments before and after 5 months training. All differences are significant (Elaborated from ref 2).
RMR=Resting Metabolic Rate; MBG=Mean of 21 measurements during a week.

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Table 2: Initial Hunger Meal Pattern and effects on insulin curve and BMI.

Either before or after 5 months	26 Trained OW		13 Control OW	
	Before	After	Before	After
OW adults with High MBG BMI	29.0 ± 4.1	26.5 ± 4.0	29.2 ± 3.9	27.8 ± 4.2
	40 NW		15 Control NW	
NW adults with High MBG BMI	21.8 ± 2.4	20.7 ± 1.9	20.2 ± 2.3	21.4 ± 2.1
(High MBG)	55 High MBG		19 High MBG Ccontrol	
Insulin area under curve at GTT	244 ± 138	164 ± 92	222 ± 81	214 ± 98
(Low MBG)	34 Trained		12 Control	
Insulin area under curve at GTT	180 ± 98	183 ± 83	192 ± 106	243 133

Note: Assessments before and after 5 months either training. IHMP and MBG were the most significant predictors of BMI in multivariate analysis of variance. High MBG OW subjects are here reported [2].
MBG=Mean of 21 measurements during a week. High MBG=MBG>81.8 mg/dL; Low MBG=MBG<81.8 mg/dL; BMI=Body Mass Index. GTT=Glucose Tolerance Test.

sample. The mean error was 5.7 mg/dL in a week and 6.0 mg/dL in 5 months [2].

More than half body immune cells are located in the intestinal mucosa [3,4]. Inflammation and damages to body cells are mainly due to antigen encounters with antibody or monocytes. Hundreds of trillions of viable bacteria provide the antigens from intestine. Inflammation and damages to body cells are not located in intestinal mucosa but they develop in blood circulation and throughout the body. This condition has been named as overall inflammation. The immune encounter is associated with local tissue damage [5,6]. The increase in cell renewal for years and decades may become so important to affect malignant developments.

Conclusion

Initial Hunger Meal Pattern (IHMP) is unknown in the Western Countries. Yet the protocol may be trained and implemented directly by lay people. The correct aim to have sufficient energy availability for normal activity must be balanced by frequent (three times per day) perception of Initial Hunger. The evaluation of energy intake amount requires a comparison with the current hunger state but not with previous or other's intake. The intervention of physicians is useful in order to encourage the training and check the maintenance of energy restriction habits (IHMP). The development of restriction habits is difficult given the current unfaithfulness of all populations about medical proposals. The unfaithfulness is higher in poor and illiterate people and is largely related to (ancestral) mechanisms in almost all societies that are operative in the acquisition of power inside Mafia. In these (ancestral) societies the assessment of truth and the establishment of convictions depend on strength of established relationships. True and reliable is the word of parents, relatives and friends in proportion to length and importance of shared collaboration. In Medical Sciences, newspapers and books acquire prestige and reliability in dependence of many factors. We give importance to the freedom from external factors. Market is the most important factor. Successful marketing means consensus. However experiments and all science are finalized just to get free from powerful opinions and dominant convictions.

After training, about 30% of investigated adults or toddler-mother pairs maintained the energy intake, Blood Glucose (BG), Resting Metabolic Rate (RMR) and insulin resistance that they had already low at recruitment [2]. This means that they easily renounced by free choice to the energy intake that conditioned people consume. BG is high during conditioned intake and the high BG increases fatness and let arise contrary, depressive reflexes [2]. Table 1 reports effects of IHMP training on energy metabolism, Table 2 reports effects on insulin sensitivity and Body Mass Index (BMI). Results on glycated hemoglobin mirror those on insulin [2]. The Tables 1 and 2 show that a life without suffering, without vascular diseases and without malignancy is possible. An experimental demonstration of these insights is feasible although it may take 10 or 20 yrs to get follow up results between an experimental and a control cohort.

Appendix

BG: Blood Glucose, an index of energy availability in blood for the whole body.

IH: Initial Hunger consists of gastric pangs or mind or physical weakness: Inedia is the Italian word for this weakness. In sedentary adults and in children, IH corresponds to 76.6 ± 3.7 mg/dL BG. In infancy corresponds to demand before sight of food.

IHMP: Initial Hunger Meal Pattern: Energy intake is adjusted to three arousals of IH per day.

MBG: The mean of 21 BG measurements before the three main daily meals reported by a week diary. MBG measures the compliance with IHMP, MBG shows changes after training and it is negatively correlated to insulin sensitivity. Below 81.8 mg/dL (Low MBG) MBG indicates a healthy meal pattern in sedentary people. Over 81.8 mg/dL, High MBG is associated with fattening/insulin resistance.

RMR: Resting Metabolic Rate.

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