

Are soil, food and metabolic damage fundamental to cancer development?

Dr. Max Gerson, New York

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Very different opinions prevail about the influence of nutrition on the development of cancer. Some deny any influence; others are convinced that there is a close connection. Since these questions occupy wide circles, we would like to give the floor to representatives of both directions in our journal. We begin with the essay of Dr. Max Gerson, who assumes that the life in the soil and in the plant is of great influence on the metabolism of our body, and that disturbed metabolism is one of the preconditions for the development of cancer.

The expression "Mother Earth" is probably justified, but we modern people treat the so important breeding ground of our physical existence *plundering* for the present and *thoughtlessly* for the future. It is all too often forgotten to give back to the benevolent donor what she has so willingly given or had to give in lavish harvests. What the defenseless soil loses more and more, it cannot give to the plants. Thus, deficiencies gradually develop in humans and animals, which cannot easily be found and made up for.

In my opinion, the well-being of people or the avoidance of diseases is most closely connected with the treatment and maintenance of the developmental *condition of the soil and its flora*. Of course, the body has reserves. If its re-absorption system (absorption of substances into the blood and lymph channels) in the intestinal tract functions properly, and its liver can combine, store, and make the substances effective again well, then the damage remains slight or can last longer without pathological manifestations and can even be compensated. In many cases, the clinical signs of disease only become apparent when the reserves have been depleted.

However, only a few people today still have healthy, completely functioning body systems. Therefore, we should pay the greatest attention to the soil with its biological conditions and its flora, since it is to be considered as our "external metabolic apparatus". This is the basis for our inner metabolism, which supplies and controls all parts of our body and largely decides about weal and woe.

It is *one of the main tasks* to maintain the predominance of the minerals of the potassium group over the sodium group (*Rudolph Keller*) (Table 1-3), as they are formed in the structure of the animal world up to the higher development of the organ cells and up to the development of the human brain. A short repetition of these processes is seen in the development of the human fruit in the womb and still half a year after its birth up to the formation of the potassium majority in its organs and the beginning of the development of the higher brain centers.

The main substances that the soil needs in larger quantities but in harmonious order are nitrogen, phosphoric acid and potassium and the important trace elements manganese, iodine, cobalt, copper, zinc, iron, etc. The first three substances are present in the soil in the following quantitative ratio: 4 - 10 - 6. These three, as well as manganese, cobalt, copper, and iron belong to the potassium group and are electrically positively charged.

Nitrogen is the most important element of protein substances (necessary for the development and growth of all living cells and tissues). It is probably the only mineral that can move freely in the liquid of the soil, dissolved as nitrate (salt of nitric acid). To maintain fertility, nature accumulates organic matter so that roots can develop freely. For this purpose, healthy, appropriate microorganisms (smallest living beings) are necessary to bring the minerals into the right "composition" and solution with their enzymes (substances that promote conversions in the metabolism). The processes in the roots, which lead to the acquisition of the building materials of the plants, still belong to the wonders in biology.

Table I
Mineral content per kg of the whole body at different ages
 from A. Sohl. Mineral Metabolism, 1939, pp. 19-20.
 The potassium group increases during development and growth,
 the sodium group decreases.

	Ph	Fat	<i>Extracellular</i>			Cl	<i>Intracellular</i>					
			Na				Water	K				
Whole body			Gm	Meq	Gm	Meq	%	Gm	Meq	Gm	Meq	%
Foetus, 3-4 months			-	-	2.7	76	93	-	-	2.14	69	0.5
Foetus, 5 months			2.58	112	2.5	70	91	2.00	51	3.58	115	1.2
Foetus, 6 months			2.16	94	2.5	70	87	1.62	41	3.82	123	2.5
Foetus, 7 months			2.14	93	2.6	73	86	1.88	48	3.82	123	2.5
Premature birth 7 months			2.42	105	2.7	75	85	1.71	44	3.82	123	3.0
Newborn			1.78	78	2.0	56	80	1.90	49	3.40	174	
12.0												
Adult			1.09	48	1.56	42	72	2.65	68	11.6	374	
					18.0							

Table II
from A. Sohl. Page 73

shows the importance of the potassium/sodium ratio in the milk
of animals in ascending order to humans

	Rat milk		Cow milk		Female milk
K	43		39.5		12.2
————	———— = 1.30		———— = 1.49		———— =
2.44					
Na	33		26.5		5.0

Table III

In disease (inverse ratio) increase of sodium group,
decrease of potassium group (regression to embryonic stage).

	K group				Na group		
	K ₂ O	P ₂ O ₅	MgO	CaO	Na ₂ O	Cl	SO ₃
Normal milk	20.6	26.4	2.72	21.55	13.02	15.58	3.66
"Salty milk" <i>Bögold and Stein</i> (pathological)	10.96	15.63	2.16	11.7	33.77	25.23	6.73
<i>Hashimoto</i> (pathological) 1.34	8.94		17.38	1.74	7.44		36.54 33.63
Udder catarrh (<i>Schrodt</i>)	10.56	24.56	2.7	16.77	24.92	24.52	1.56
Tuberculous cow (<i>Storch</i>)	10.87	7.1	1.27	4.34	40.6	-	5.08
normal udder	12.64	22.22	2.1	-	21.79	27.99	-
tuberculous udder	5.08	8.76	0.79	-	42.37	44.64	-

Everywhere in nature there is balance and rhythm, which we must recognize and maintain. They must not be disturbed with impunity. Similarly to the plant, in the soil, excess and deficiency are equally harmful. An excess of potassium or magnesium in the plant can actually mean a deficiency of calcium. Millions of years of development in nature have led to iron laws. Accordingly, it must be our endeavor to recognize these laws as far as

possible and to act accordingly. However, the modern civilization cares quite little about it. Only the pace is different in different countries. This unfavorable development is also expressed in the cultivation of our food, in its storage, distribution and in its preparation.

The damage begins in the soil, where (incorrect) artificial fertilization constantly causes shifts in mineral content, changes in bacterial flora, migration of earthworms, frequent leaching of the topsoil. At first sometimes with irritation of plants, which later causes their degeneration. Spraying with poisonous substances to keep away pests further causes accumulation of poisons in soil, plants and fruits. The refinement of food eliminates many important minerals and especially their enzymes. Preservation in tins, drying or pulverizing or freezing kills most living substances. Thus our daily food becomes a "dead mass" deficient in important minerals, plant hormones, vitamins and enzymes. No wonder that such *deep disturbances of biological balances* cause increasing degenerative (caused by degeneration) diseases from generation to generation. Not only cancer, but also inflammation of joints, high blood pressure, premature hardening of arteries, heart disease, mental illnesses, etc.

The rapidly developed advanced civilization in America is causing the *increase of degenerative diseases* - especially cancer - to an alarming degree. Here, according to official statistics, one in 13.6 people died of cancer in 1936, and one in four 17 years later. In my opinion, the refined diagnostics (detection of diseases) cannot account for more than one fifth of this strong increase. *Billions* are donated by all nations *for cancer studies*, but science has lost the race with the increase of cancers due to civilization damage. This is unlikely to change until scientific efforts to solve the cancer problem start in the right place: with metabolic disorders and the degenerative changes they cause throughout the body.

What should now put our efforts on the right track? My first thought was: *cancer cannot develop in a healthy body*. Animal experiments further show that carcinogenic substances are capable of producing acute or chronic poisoning and, as a consequence, cancer. This indicates that poisoning (especially of the liver, kidneys, spleen, glands) must be present first. *Yamagiwa* (1915) and *Itschikawa* (1918 to 1921) were able to induce chronic poisoning and produce cancer in animals by tar rubs after a long period of application (8 months).

Accordingly, *two separate disease processes are necessary for the development of cancer*. A local and a general one. The local one was the skin damage caused by the tar, the general one, the changes in the internal organs with the effects on the metabolism. In our body the local disease can be caused by: embryonic remnants, chronically damaged cells, transitional cells, or cells that have been pushed out of line and normal activity. In case of normal metabolism they are harmless, in case of abnormal metabolism, which is close to embryonic metabolism, these cells start to change (mutation), and thus their accelerated way of life starts poisoning the host-body.

Various researchers have found that *metabolic disorders* were present *even before the development of tumors*. *Strong* and *Francis* revealed a marked decrease in hemoglobin

(the pigment of red blood cells). ... [Here some lines of the original manuscript are missing] ... planted tumor tissue exerts a direct influence on the hematopoietic system and the hemoglobin level.

For the solution of the problem indicated here it is still important that *the chemical structure of the tumor cells is uniform and much more monotonous* than that of normal cells, no matter which origin the tumor has or which tissue type it belongs to. Even in its enzyme functions, the malignant tumor is an independent entity and maintains this peculiarity, i.e., it remains independent and takes no account of the living conditions of the host body. It not only alters the normal exchange with blood and tissue fluid, but poisons the host body, thus paralyzing the healing apparatus and preventing healing (regulation) by hormone metabolism or the visceral nervous system.

With its *high negative electrical charge*, the tumor (cancerous tumor) maintains its state of force in the positively charged healthy tissue, protects the action capacity of its mass, and even inherits these properties in just the fastest succession. Each normal tissue has according to its own task (individual activity) a certain interaction of the enzymes ("enzyme ensemble"). Qualitatively, the tumors growing in the different tissues still have the same enzymes as the original tissues, but in different quantitative composition and different active action.

Also, the *breadth of vitamins* - now conceived as co-enzymes - is *much smaller* in the tumors than in the original tissues. In the malignant growths everything is more uniform, less manifold and less differentiated. (3) As an example, I [or L] Greenstein states that the enzyme ... [Here some lines of the original manuscript are missing] ... are very similar to those of stomach cancer and liver tumor. As early as 1925, C. F. Cori and G. T. Cori found the same content of lactic acid and sugar in sarcoma and carcinoma (cancer) - two quite different types of tumors. In cancer tissue there is no time for high differentiation, everything must be done quickly.

In humans, *the local part of the cancer development can occur in all organs* but it is harmless if the metabolism is healthy. In the case of the general part or the gradual poisoning of the body by change of soil, food and metabolism with partial relapse into the embryonic, the danger point is reached more quickly in such organs which have been damaged in life by diseases (also by poisons of consumption) or hereditary disposition or both. The then more or less appearing disease is cancer.

The life in the soil and its living plants and fruits for our daily food can be called essential parts of our "*outer metabolism*". This is inseparably connected with our "*inner metabolism*". Both are the basis for health and disease.

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