The Lynchpin Argument

The major problem we have been facing is that the nuclear establishment has argued, quite correctly, that there is no authoritative data to identify a plausible mechanism to explain how relatively low levels of internal radiation *could* be so damaging. The one scientist who had the answer was imprisoned and all of his data was destroyed. Here is a simple way to prove the same thing.

Cesium 137 tends to replace the Potassium in the body. For the most part, the average levels that would be found in our blood or other body fluids do not seem to rise above the levels that are found in our food and water. These levels, from a strictly logical standpoint are too low to cause the damage that is really being seen. Here is **how** *it is more damaging than it seems it could be. Potassium is 28 times more concentrated in a neuron (nerve cell) than in the surrounding tissue. Therefore, it is reasonable to suppose that radioactive Cesium is also 28 times more concentrated, as well. Radioactive Cesium is 53 times more concentrated in the nuclei of Liver cells than in the fluid between the cells. It is 129 times greater in the nucleus of an oocyte (egg precursor cell.) In fact, lacking any other evidence, the precautionary principle compels us to act on this conclusion until contrary evidence is produced.*

The point is this, data on Potassium levels in various tissues is widely available. We need to find a cellular biologist that verify pursue this approach.

Ion Concentration (mM) - SQUID NEURON

	Intracellular	Extracellular
Potassium	400	20
Sodium	50	440
Chloride	40-150	560
Calcium	0.0001	10

Ion Concentration (mM) - MAMMALIAN NEURON

	Intracellular	Extracellular
Potassium	140	5
Sodium	05/15/14	145
Chloride	04/30/14	110
Calcium	0.0001	01/02/14

Data from Purves et al., Neuroscience, Sunderland: Sinauer Associates, 1997.

This *approach* means that we can precisely quantify the pertinent concentrations in the various parts of living organisms. This is because there is probably a great deal of data for potassium. Furthermore, we might be able to infer a clinical significant benefit for raising potassium levels to compete better with the tiny bit of Cesium that is present. In other words, we could take extra Potassium to make the Cesium a smaller percentage of what our tissues are grabbing.

Potassium Chloride is a common Salt Substitute. As with Salt, it can be toxic in unreasonable amounts. However, as with Salt, the body is pretty tolerant of moderately large doses. Most people could increase their Potassium intake, perhaps nine-fold, assumingv they already average 2mg / day. They should do so slowly. This is not an adequate solution, but it reduces the problem 9-fold.

The next chart shows that Potassium (K+) is more than fifty times more concentrated in the nuclei of the Liver cells than in the fluid between the cells. Note: The nucleus is a very small percentage of the total mass of a cell, so it takes a very specialized measurement to measure the nucleus of cells separately from the rest of the cell.

Again, we need real expert opinions on this, however, it is likely that the body fluid outside of the cells has pretty much the same Potassium concentration as the food and water that is consumed. The oocyte (egg-cell) has 129 times as much Potassium: Therefore, it almost certainly has 129 times as much Cesium 137. ***This is the single most important cell for any specie.***

TABLE I

SODIUM AND POTASSIUM CONCENTRATION GRADIENTS ACROSS THE PLASMA AND NUCLEAR MEMBRANES

Tissue	Ion	Extracellular	Cytoplasm (C)	Nucleoplasm (N)	N/C	Ref.
		millimoles/liter water or cell water				
Liver	Na^+	145	10	131	13.1	5
	K^+	5	163	265	1.63	
Oocyte	Na^+	120	88	281	3.19	2
	K^+	2	106	258	2.43	

BRIEF COMMUNICATIONS: A POSSIBLE MECHANISM FOR CONCENTRATING SODIUM AND POTASSIUM IN THE CELL NUCLEUS

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