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Short Communication

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Controversy in Radionuclides as Anthropogenic Evolutionary Disruptors in Pancreatic Cancer and Diabetes and Radionuclide Evolutionary Mismatch

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ABSTRACT

The global dissemination of artificial radionuclides since 1945 represents a novel environmental condition in evolutionary terms. Isotopes such as Cesium-137 (Cs-137) and Iodine-131 (I-131), generated through nuclear weapons testing, reactor accidents, and nuclear energy production, were not present during the evolutionary history of terrestrial life. The new radio-iodine decays into inert Xenon, while carbon-14 decays into nitrogen-14 via beta emission; this transformation occurs at the atomic level and does not directly disrupt established macromolecular carbon frameworks, although local molecular damage may occur during decay events. This paper suggests an evolutionary hypothesis" that chronic internal exposure to such radionuclides may constitute an underexplored factor in long-term metabolic, pancreatic, colon and arterial disorders. The framework integrates evolutionary biology, ion mimicry theory, oxidative stress mechanisms, and internal dosimetry. It further addresses an ongoing scientific disagreement regarding the adequacy of prevailing low-dose radiation risk models, particularly with respect to non-cancer metabolic endpoints. While no causal association between environmental Cs-137 exposure and arteries, diabetes, pancreatic or colorectal cancer is currently recognized by major international health authorities, this position paper of CCPDA-hypothesis, supports that targeted interdisciplinary investigation is warranted.

Keywords: Iodine-131, Caesium-137, Low-dose radiation, Pancreas Cancer and Diabetes

Introduction

The Chernobyl nuclear accident of 26 April 1986 marked a turning point not only in the history of energy production, representing a significant departure from the natural history of matter. Life evolved within a stable isotopic environment shaped by cosmic nucleosynthesis and long-term biological selection. Essential elements such as iodine were progressively integrated into conserved biochemical pathways, including antioxidant and regulatory mechanisms. Nuclear fission has introduced a large-scale anthropogenic production of radioactive isotopes that were absent from this evolutionary context. The damage caused by artificial radionuclides, particularly iodine-131 and cesium-137, and from now on it will for a long time be present in our future. These isotopes are chemically mimicking essential biological elements but fundamentally differing in their radiophysical properties , and by exploiting conserved molecular and cellular transport pathways, create a mismatch between biochemical recognition and radiological behavior. These artificial radionuclides interfere with cellular signaling and cause significant genetic and metabolic disorders, including pancreatic cancer and diabetes. According to agreement of 1959, WHO cannot publish on nuclear radiation without consulting the IAEA and loses scientific autonomy and independence in radiation protection, and many WHO assessments are conservative towards industry. Therefore, 'Food Standards' safety limits of radionuclides, expressed in Becquerels per kg (Bq/kg) of one of the most dangerous and persistent (more than 300 years) as radiocesium are different in the Nations, after disaster of Chernobyl and Fukushima and were revised downward, to apply different 'Precautionary Principle': Japan lowered the limits from 500 to 100 Bq/kg, while Europe mantain 600 and USA (FDA) 1200 Bq/kg .

References

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and Evolutionary Mismatch ” and on " https://www.wikiwand.com/en/Evolutionary_mismatch ".

My work explores the biological consequences of chronic internal exposure to artificial radionuclides, with particular attention to caesium-137 as a potassium analogue and its potential effects on pancreatic endocrine function. By integrating radiobiology, evolutionary biology, and endocrinology, the proposed framework addresses non-cancer outcomes of internal emitters, including pancreatic dysfunction and pancreatogenic diabetes, which remain underrepresented in conventional radiation risk models. This paper also revisits the long-standing assumption regarding total body iodine content, highlighting the possible predominance of extrathyroidal iodine and its evolutionary role in antioxidant and metabolic regulation. Within this context, artificial radionuclides are discussed as evolutionary mismatches that exploit conserved transport pathways while introducing persistent cellular stress. I believe particularly in sessions focusing on internal emitters, low-dose chronic exposure, and biological effects beyond classical carcinogenesis.

The global dissemination of artificial radionuclides since 1945 represents a novel environmental condition in evolutionary terms. Isotopes such as Cesium-137 (Cs-137) and Iodine-131 (I-131), generated through nuclear weapons testing, reactor accidents, and nuclear energy production, were not present during the evolutionary history of terrestrial life. The new radio-iodine decays into inert Xenon, while carbon-14 decays into nitrogen-14 via beta emission; this transformation occurs at the atomic level and does not directly disrupt established macromolecular carbon frameworks, although local molecular damage may occur during decay events. This paper suggests an evolutionary hypothesis” that chronic internal exposure to such radionuclides may constitute an underexplored factor in long-term metabolic, pancreatic, colon and arterial disorders. The framework integrates evolutionary biology, ion mimicry theory, oxidative stress mechanisms, and internal dosimetry. It further addresses an ongoing scientific disagreement regarding the adequacy of prevailing low-dose radiation risk models, particularly with respect to non-cancer metabolic endpoints. While no causal association between environmental Cs-137 exposure and arteries, diabetes, pancreatic or colorectal cancer is currently recognized by major international health authorities, this position paper of CCPDA-hypothesis, supports that targeted interdisciplinary investigation is warranted.

Biography

Sebastiano Venturi MD

Sebastiano Venturi, studied goiter, cretinism and the extrathyroidal antioxidant action of iodine in human organisms. He reported the first articles on the association of iodine and stomach, breast and salivary glands cancer, presented in Beijing and London Congresses. He also published the first study on the evolutionary antioxidant aspect of iodine in the primitive living cells. In 2020-25 he studied the first correlation on Cesium-137, Pancreatic and Salivary Cancers, Pancreatitis & Diabetes and reported this association and paper at St. Petersburg (2022) and Singapore (2025) International Congresses through the experimental form of "Dialogue" with Artificial Intelligence (A.I.).In 2026, Venturi published a paper on evolutionary mismatch theory in an article on artificial radionuclides (and particularly in a scintigraphy with Iodine-131) regarding to vulnerability of arteries and diabetes ("CCPDA Theory"). In 2000, Venturi reported also in [iodine in biology the transition of living organisms from a marine environment, rich in primitive antioxidant iodide to a poor terrestrial environment, where the terrestrial plants have compensated by producing, about 4-500 Million years ago, new[antioxidants such as the antiatherosclerotic Vitamin C, and more recently polyphenols and flavonoids. Ref. Thyroid |volume=10 |issue=8 |pmid=11014322}}</ref>.

Biography

Sebastiano Venturi, studied Iodine and iodine deficiency disorders and the extrathyroidal antioxidant action of iodine in human organisms. He reported the first articles on the association of iodine and stomach, breast and salivary glands cancer, presented in Beijing and London Congresses. He also published the first study on evolutionary aspect of iodine in primitive living cells. In 2020-25 he studied the first correlation on Cesium-137 and its correlation on Pancreatic and Salivary Cancers, Pancreatitis & Diabetes that reported at St. Petersburg (2022) and Singapore (2025) International Congresses, through also an experimental form with Artificial Intelligence (A.I.)