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Alpha-emitting nanoparticles and the Warburg Effect, skin diseases, eating disorders, musculoskeletal disorders, alcoholism, cigarette, hypersexuality and neurofibromatosis type 1

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ABSTRACT

Alpha emitting nanoparticulates in internal contamination, an IARC Class 1 carcinogen, have an extremely wide list of effects. New effects are here demonstrated based on a wide epidemiological survey. WHO data in particular is used together with other large sets and juxtaposed to known sources of variations of radioactivity contamination in the environment to demonstrate the link which is always explained by the strong decay energy and its impact on the organism. Some behaviours are shown to be strategies of pain reduction, others of decontamination. This article confirms the simple logic of biophysics (the linear-no-threshold model) outlined by the author in previous publications.

Keywords: Alpha-emitting nanoparticles; the Warburg Effect; skin diseases; eating disorders; musculoskeletal disorders; alcoholism; cigarette; hypersexuality; Multiple sclerosis; rheumatoid arthritis; neurofibromatosis

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General introduction

It is reminded that the progressive extraction of uranium ore leads to the accumulation of new stockpiles of depleted uranium ; in more ancient loads of depleted uranium which are sprayed with bombs, the depleted uranium progressively decays into daughter products which have shorter and shorter half lives¹, and hence a stronger and stronger biological damage relative to the amounts incorporated, in comparison with more recent bombs made with recently separated depleted uranium not containing as much decay products such as U234 and Th230. The effects of depleted uranium contamination in Kuwait come from the aftermath of the 1991 conflict and from the subsequent bombings of Basrah in Iraq in 2003. Both conflicts have brought extremely high levels of depleted uranium dust in this small neighbouring country and Kuwait having been contaminated extremely soon, the nanoparticles have had time to decay. In addition to this, other types of pollution bring alpha-emitting nanoparticulates : mainly aerosolized radium & its decay products from heavy industries, car traffic, dessalinization of seawater that is naturally rich in alpha emitters (for the countries most used for this survey). There is in supplement the issue of neutrons from the sun, the population nevertheless is well accustomed and this does not show up of course in recent changes.

In this paper, cigarette is discussed as "clean" - good quality i.e. without Po210 from phosphated fertilizers, filters seem to manage to protect the user usually (this was not tested by the author who is not a cigarette user in general, it just is an hypothesis) but not nearby bystanders.

1. The overall explanation of the Warburg Effect

The Warburg effect has a simple explanation: the accumulation of positive charges from alpha emitting nanoparticulates (helium nuclei are positively charged) such as uranium, thorium

and radon, in the body, amounts to a progressive acidification because of their positive electronic charge. The contamination sources (radon, U, Th etc. in tap water, "NORMS" in coal, phosphate fertilizers, oil, gas, climbing the food chain, ending in waste incinerators, depleted uranium bombings, nuclear accidents with significant leaks, etc) are the prime cause for cancer around the world.

Alpha emitting nanoparticulates are positively charged and behave as acids. The presence of helium nuclei with their positive charge together with the particulate causes a decrease in pH; this is in combination with the strong kinetic energy of the decay, wherever the decay happens for an atom on the exterior of the particulate (where it fires directly into neighbouring cells) or inside the particulate – where it converts into vibration and heat. The Warburg Effect fits with the results already presented in Alpha emitting nanoparticulates, the forgotten pollutant, with the margin of error (the paper gives >97% of cancers linked to the complete list of alpha emitting nanoparticulates). There are of course other sources of cancer and they combine. Solar neutrons for instance, brutal shocks in general, and all other sources of physical damage – the chemical energy of intakes of acidic drinks slowly causing corrosion inside the body, for instance. But, from:

- radon
- natural contamination of uranium, thorium and their decay products in tap water, climbing the food chain and accumulating in meat
- contamination of phosphated fertilizers with U, Th etc and decay products, also contaminating agricultural products, esp. tobacco, and climbing as well the food chain and accumulating in meat
- contamination with NORMs in oil, natural gas, coal, passing into fumes, also falling back onto the land, contaminating agriculture, climbing as well the food chain and accumulating in meat, plus radon contamination in indoor agriculture for meat, milk etc

¹ Which is why, also, the Chernobyl fallout took fire massively Spring 2020: very simple application of Arrhenius' law, the latent heat in the soil is rising and combines with

spring heats – a potential barrier can be overcome somewhere, triggers a fire which propagates rapidly

- nuclear accident fallout, depleted uranium weapons, the spreading of uranium mine tailings (and of waste in uranium enrichment, e.g. in East St Louis, Missouri), remains of atmospheric nuclear testing

- Incineration of waste, in general, spreading again the alpha emitting nanoparticulates in the atmosphere (the blame for waste incinerators being usually put on dioxin)

To take a simple example: in the Azores for instance it is well known that there is an extremely high cancer rate (see for instance Lacerda et al) which is mostly linked to the strong radon emission by the hot sources and other areas of volcanic venting, together with an extremely acute level of exposure to the sun and its neutrons. The contamination with radon also leads to research of products allowing easy pain anesthesia such as cigarettes.

These various sources of contamination further demonstrate why a vegan regime is naturally extremely protective of human health.

2. Eating disorders, skin diseases, multiple sclerosis and the other musculoskeletal disorders

I. Methods

The epidemiological effects are shown using WHO DALYs data evolution from 2000 to 2015. The antiquity of depleted uranium deposits of the 1991 conflict have led to a higher alpha activity in these deposits, hence particularly strong health effects relative to the other countries of the region bombed with depleted uranium more recently. The data in Kuwait, a country affected already by the 1991 conflict shows this phenomenon bluntly. WHO data from Saudi Arabia and Jordan is also used. DALYs for which an increase of above +85% over that period are kept except when it is just an increase in a sub-category of a bigger level of reading for which the average increase is inferior to the threshold used.

III. Results

a. Kuwait

1. Malignant neoplasms: in average the overall increase for that sector is of +85,6%.

Colon and rectum cancer: +120,5%

Pancreas cancer: +124,6 %

Breast cancer: +159,6%

Corpus uteri cancer: +240,7%

Ovary cancer: +143,2 %

Prostate cancer: +111,8%

Brain and nervous system cancers: +122,7% (on this see Pirot 2020, AJMCR)

Mesothelioma: +448,5%

2. Endocrine, blood, immune disorders: in average the overall increase for that sector is of +147,2%

Sickle cell disorder and traits: +122,8%

Other haemoglobinopathies and haemolytic anaemias: +112,9%

Other endocrine, blood and immune disorders: +180,8%

For cardiovascular diseases +104,4% in average, respiratory diseases +102,4%, digestive diseases +146,1%. Skin diseases increase by +263,6%.

The WHO data shows another tremendous increase for schizophrenia in Kuwait: + 297,8%. The increase in eating disorders DALYs is also very significant (+258,3%).

Musculoskeletal diseases DALYs increase by +300,3%, with +434% for rheumatoid arthritis and

+289% for other musculoskeletal disorders.

For Alzheimer's and other forms of dementia the increase is of +148,1%, multiple sclerosis +245%, epilepsy +100,8%, other neurological conditions +99,5%.

b. Jordan and Saudi Arabia

The WHO DALYs data for Jordan, a country also on the sides of the depleted uranium bombings in Iraq and in Syria having also very strong air pollution issues linked to recent densification of car traffic, in addition to a military base possibly contributing near the capital Amman, gives +238,4% for MS, and other relatively strong increases in other diseases : +93,8% for melanoma and other skin cancers, +97% for pancreatic cancer, +92% for trachea, bronchus, lung cancer, +147% for other neoplasms, +132,7% for Alzheimer's and other forms of dementia, and +134,7% for hypertensive heart disease. In Saudi Arabia, also slightly exposed to depleted uranium through winds, together with a strong

increase of the use of water desalination bringing uranium, thorium etc. from the ocean in the diet, WHO DALYs show +94% for multiple sclerosis, +108,3% for colon and rectum cancer, +92,4% for trachea, bronchus, lung cancer, +93,8% for melanoma and other skin cancers, and +158% for other neoplasms. Schizophrenia increases by +118,8%.

IV. Discussion

To read this data the results provided in Pirot (2019 – Alpha emitting nanoparticulates, the forgotten pollutant) are a first frame. The obviousness of the progressive descent of the heavy uranium nanoparticulates in the bottom part of the body after inhalation / ingestion, together with the exposure of the nervous and blood and endocrine system is here again evidenced firmly by the WHO dataset.

The direct genetic effect of the alpha emitting nanoparticulates on the gametes leading to de novo mutations and hereditary diseases of all kinds (Down Syndrome, autism, schizophrenia for instance) was also evidenced already strongly in the above source. For eating disorders the pattern is obviously linked to a tendency to over-eat in many subjects contaminated in the stomach by DU nanoparticles as way to absorb the pain from the alpha decay of the particles. The comments on eating disorders have to be extended to drug and alcohol use disorders as the use of quick “pain absorbers” is also fostered by the contamination with DU nanoparticles. In Kuwait alcohol use disorders DALYs increase by 124% (Saudi Arabia: + 109,3%), and drug use disorder DALYs by 191,5% (Saudi Arabia: +274%). The explanatory pattern is the same as for cigarette use: achieving feeling of rapid pain relief.

The increase in skin diseases and melanoma is another obvious effect of depleted uranium nanoparticles corroding the skin. Several studies have noted an unsurprising increase of risk of skin cancer with radon exposure (Wheeler et al 2012, Braüner et al 2015, Vienneau et al 2017) as the decay energy burns slowly the skin, and the pattern is obviously the same with the alpha

decay of DU dust deposited on the skin and staying together with the sweat (attracted especially by salty sweat due to the positive charge of alpha particles).

The existing data on multiple sclerosis shows a very high prevalence in rich granitic countries (above average natural radioactivity) where the cold and / or wetness during part of the year is an incentive to stay inside and reduce movements such as Finland, Sweden, Canada, Ireland, and in Scotland (Wade 2014), increasing also inhalation of radon; merging with the above results on DU leads to the direct and obvious conclusion of an intrinsic link between alpha emitting

nanoparticulates and multiple sclerosis. In relatively rich countries where the heat creates a similar constraint on physical movements, together with massive amounts of depleted uranium use, spikes in multiple sclerosis are hence a natural confirmation of the link with alpha emitting nanoparticulates and this is also obvious for the other musculoskeletal disorders. The tendency of salt to attract alpha emitting nanoparticulates on the nerves which are crucial for these troubles has already been shown (Pirot 2019b). The obvious pattern of highest risk for these musculoskeletal disorders relates either:

- to subjects whose living level has allowed them to reduce the needs for daily physical exercise (use of cars, absence of need to work physically) and not compensating with sport,
- or to subjects constrained to it by very hot summers or cold (or wet) winters

All likely with a somehow salty diet, slowly accumulating alpha emitting nanoparticulates in the interface between nerves and the skeleton, especially the bottom part of the spine, where they cause progressive damage, always with a degenerative dimension as the decay rate of each nanoparticulate stuck in a given area always accelerates over time².

It must be reminded that in principle all forms of physical damage on nerves can trigger a handicap relatable to a musculoskeletal disorder.

² Except in the case of contamination with transuranics: Pu239 for instance has a half life much shorter than U235
RJPP: <https://escipub.com/research-journal-of-pharmacology-and-pharmacy/>

Alpha emitting nanoparticulates are key but are not the only cause – the principle being the strong energy of the alpha decay causing the destruction, other sources of physical destruction such as repeated hits on bones or falls and other domestic accidents can also lead to such conditions or, much more likely, combine with at least limited levels of contamination with alpha emitting nanoparticles. Strong exposure to solar neutrons, for instance, can as well trigger such handicaps due to neutrons damaging the nerves in e.g. the spinal cord.

3. The hypersexual disorder and the use of alcohol

Ejaculation has been demonstrated to decrease prostate cancer risk – but there is a much, much longer list of diseases it prevents as of course this is one of the main channels for evacuation of the alpha emitting nanoparticulates.

The study by Boström et al evaluated the differences in expression of MIR4456 through blood analysis – the stream of blood is a strong receptacle of heavy metal contamination in general. The difference in expression is obviously triggered by the presence of alpha emitting nanoparticulates in the blood – alpha decay impacting the genes.

MIR4456 is associated to the colon and rectum as it is linked to the phenotype for ulcerative colitis in five different studies (Jostins et al 2012, McGovern et al 2010, Anderson et al 2011, de Lange et al 2017, Liu et al 2015).

The colon and rectum are among the most significant receptacles for heavy metals due to their position in the body.

DNA damage is triggered by the interaction of the alpha emitting nanoparticulates with the genes carried by blood cells, for instance as the nanoparticulates enter the body's bloodstream from the lower parts of the body's circulatory system, during the last phases of digestion. In this process, ulcerative colitis can be triggered due to alpha decay damage on the bowels.

The other phenotype associated with MIR4456 is also a phenotype linked to the blood-body barrier: cystic fibrosis and other lung diseases (Corvol et al 2015). Here again lung damage can

be associated to the penetration of the alpha emitting nanoparticulates in the body after incorporation. The ratio of 5 studies confirming the link for the colon and rectum to 1 study for the lung is directly in link with the tendency of nanoparticulates to fall down to the bottom of the body. Instead of trying to demonstrate a direct link between the lower expression of the MIR4456 gene and the new pathway in oxytocin in the brain, a simpler analysis relies on the body's endocannabinoid system whose role of ensuring homeostasis has been demonstrated in many studies (see for instance Sallaberry CA and Astern L 2018 for a review) – the endocannabinoid system detects divergences with the usual expression of genes (not specifically MIR4456, but genes in general), and all other divergences with the normal state of health of the body, and as reply to divergences, triggers the brain's stimulation of sexual activity to ensure evacuation of the alpha emitting nanoparticulates – this applies both for male and, of course, female ejaculation.

Natural selection has allowed the selection of this self-protecting behaviour as the elimination of the contaminants obviously reduces the overall risk of diseases.

The study of the authors also indicates an opposite effect (hyposexuality) with the incorporation of alcohol. The presence of alcohol in the blood certainly acts as a temporary shield for the blood cells as the accumulation of molecules rich in C, H, and O can serve as temporary cushion for the alpha decay (C and H especially are good moderators, they also serve as neutron moderators in nuclear reactors), reducing the damage to the body. Hence, in case of a strong alcohol consumption, even in the presence of alpha emitting nanoparticulates at high levels, the reflex of seeking sexual activity is not triggered as the body's endocannabinoid system cannot yet detect their impact.

Research news from the US Veterans' Administration indicates that:

Compulsive sexual behavior (CSB), also known as hypersexual disorder, is of emerging interest in the psychiatric research community. But data

are shallow in terms of fully understanding CSB—often defined as difficulties in controlling inappropriate or excessive sexual fantasies, urges, or behaviors that interfere with key areas of daily life—as well as its relation to other mental health problems.

Researchers believe that CSB may be tied in some cases to PTSD, suicide risk, and other psychiatric concerns in the Veteran population. But not enough is known about the relationship. Even explaining why CSB is more prevalent among Veterans compared with non-Veterans, or diagnosing Vets with the disorder and figuring out how best to treat them, has been a challenge. The high contamination of veterans with

depleted uranium obviously explains the high propensity of US veterans to the hypersexual disorder.

Bolt, Helming and Tintle (2018) report above-average levels of alcohol disorders in the Chernobyl-affected areas, another form of reaction to the above-average exposure. The well-reported customs of alcoholism in areas of naturally high radioactivity can be so explained. For France, for instance, data on the ratio of bars per inhabitants shows very high densities of bars in Auvergne, Brittany, Corsica, in the Alps and in the Pireneans, areas of high natural radioactivity (the map is in annex).

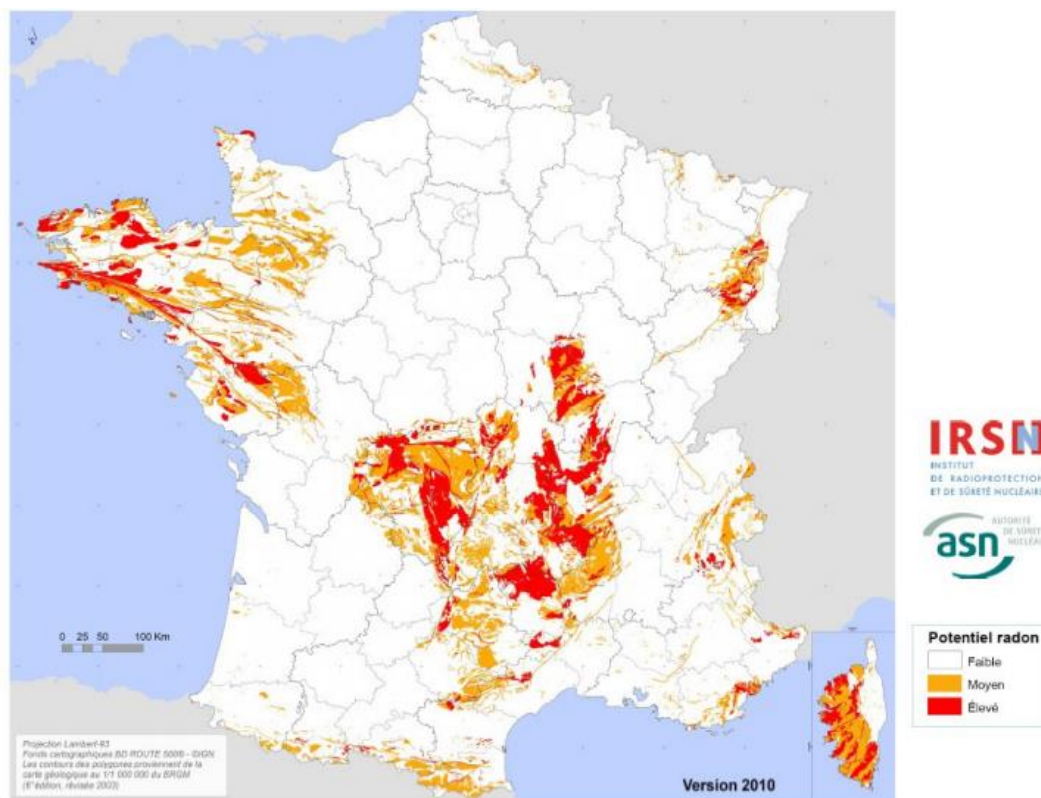


Figure 1 : Carte du potentiel radon des formations géologiques à l'échelle 1:1 000 000, version 2010

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Alpha emitting nanoparticulates, in general, travel well beyond the bloodstream and gastric system where the semi-protective alcohol staggers for a short time - so especially as the drinker takes a rest laying down the alpha-emitting nanoparticulates will be able to creep back in the brain during sleep and lead to the terrible headaches of the next morning ; and amnesia from the process that is "industrial" in the Alzheimer

disease - endocrine disruption, beta-amyloid and tau proteins occupying the brain and reducing memories of past events (see Pirot 2019b).

As a last comment, this article should obviously not be read as a way to find justifications for legitimizing e.g. rape or other excessive behaviours such as public exhibition in front of tribunals, "sexual" behaviours against the police (urinating on symbols of the order for instance) etc –

especially as, for men, one well-described manifestation of the hypersexual disorder is the use of pornography.

4. Neurofibromatosis type 1

I. Introduction

The mechanics of neurofibromatosis type 1 are shown to be directly linked with alpha-emitting nanoparticulates (an IARC Class 1 carcinogen) through review of the existing literature on the subject. It is shown that the genetic disorder at the root of NF1 leads to an accumulation of negative ions (because, it is plotted, of a channel dysfunction) in areas of the nervous system, attracting progressively the alpha-emitting nanoparticulates thanks to their positive charge, leading because of the decay energy to the various forms of destruction, tumorigenesis etc. typical of NF1. Observation of the genetic background also proves the effect of parental contamination leading to de novo cases, frequently associated with various other diseases including congenital malformations themselves linked with such radioactive contamination of the parents.

II. Details

The typical rate for de novo cases in NF1 is of circa 50% (Tsirikos et al 2005) but there are regional variations. In a Dutch study, 74% of molecularly confirmed NF1 cases were de novo mutations (van Minkelen et al 2014) - 42% for the UK (Evans et al 2010).

In Pasmant et al (2016) it is pointed out that more severe and abnormal manifestations of NF1 have been associated with large deletions (in 5 to 10% of the patients), such large deletions can happen with the alea of the alpha decay onto gametes after parental contamination (typically if, relative to the chromosomic package of a gamet, the alpha emitter is at close range) ; the same also provides that „more than half“ of all NF1 cases are caused by de novo mutations. The variability, with a high rate of de novo mutations in the Netherlands, leads to the already existing bibliography on alpha emitting nanoparticulates and genetic mutations ; the very low natural radioactivity in the Netherlands has to be opposed with the many sources of industrial contamination with alpha emitting nanoparticulates in

recent years (tobacco grown with phosphate fertilizers, combustion engine fumes, natural gas, natural contamination in coal for instance... so-called „ NORMs“ which accumulate in the food chain, esp. in meats, and are typically spread again in the atmosphere by incineration of waste) leading to a rapid increase in the industrial era (in comparison with naturally very low levels of NF1) in this country. Natural radioactivity is in average mildly higher in the UK, with strong regional variations and this explains why the local ratio of de novo mutations for NF1 is found to be lower.

Similar work for the epidemiology of a wide array of diseases was already carried out (see Pirot (2019a)) and NF1 presents similarities with various non-communicable diseases listed (cancers, neurological disorders, endocrine disorders).

NF1 is also linked with many congenital malformations (Leppävirta 2018 provides a review of congenital malformations associated with NF1 – esp. cardiovascular, musculoskeletal and central nervous system malformations, together with a smaller group of other malformations), this is an expected result as contamination with alpha-emitting nanoparticulates in parents reaching gonads leads both to genetic damage and to birth defects, or a combination thereof.

Gastrointestinal manifestations of NF1 could be significantly under-recognized and neuroendocrine neoplasms, particularly of the periam-pulmonary duodenum, seem to be quite characteristic of NF1 (Agaimy et al 2012). The contamination with heavy alpha-emitting nanoparticulates leads typically to progressive descent, with gravity, of the nanoparticulates in the bottom part of the organism where they accumulate slowly, such a characteristic confirming the direct link. The decay of the typical ^{238}U nanoparticulates causes a progressive increase of the alpha flux over time as the decay products have shorter and shorter half lives (so the alpha flux of a nanoparticulate increases exponentially); hence in case of failure to eliminate the nanoparticulates with e.g. urine as the nanoparticulates get stuck in the depth of the bodily organs, the damage increases over time – with accelerating speeds -

explaining the aggressivity frequently noted in many conditions, as pointed out already by Pirot (2019a).

III. Analysis

It is hypothesized that the genetic defect causing neurofibromatosis type 1 is an alteration of an ion channel leading to above-average accumulations of anions in cells located in nerves around the body. These nerves become poles of attraction for the alpha-emitting nanoparticulates (positively charged) which hence cause e.g. tumor growth, pain around these nerves. This explains the progressive nature of the disease. An identical pattern was identified for neurological disorders as concern their link with salt intakes, as the accumulation of Cl⁻ ions in neurons makes them more potent magnets for alpha-emitting nanoparticulates, hence explaining the link between salt and neurological disorders (Pirot 2019b).

The transient outward K⁺ current in mutant Schwann cells after gene-targeted deletion of neurofibromin (Yanfang et al 2002) is a particularly clear confirmation of the hypothesis.

According to the hypothesis, alpha-emitting nanoparticulates should stagger near the mutant cells.

Their positive charges accumulate. Due to this accumulation, there is an increase of the K⁺ outward current as the positive charges associated with contamination with alpha-emitting nanoparticulates near the mutant Schwann cells repel K⁺ ions at higher levels, in comparison with non-mutant lines of Schwann cells. In Yanfang et al 2002 mutant lines of Schwann cells are obtained from mouse embryos ; contamination with alpha-emitting nanoparticulates happen from the foetus stage in the mother's uterus as she provides the foetus with fluids that necessarily have some level of contamination with alpha emitters, depending on radon contamination in the laboratory, natural contamination in water given to the

mother, in her foods...

Findings of delayed currents are simply explained by the fact that the alpha emitting nanoparticulate can be expected to be in the core of the tumorous group and hence the positive charge may not necessarily immediately affect the total level of K⁺ currents, but as this current needs a few milliseconds to enter the tumor Schwann cells and meet the location where positive charges from the alpha emitters are lodged, repelling the newcoming charges, there is then an increase in K⁺ currents, explaining results in Fieber et al 2003³.

NF1 is a progressive disease and degenerative co-conditions are sometimes noted (see for instance Coleman et al 1983, Avery et al 2016, Drucker et al 2019, Strowd et al 2016). The degenerative nature of NF1-associated conditions is directly associated with the progressive increase of the alpha flux in e.g. 238U nanoparticulates, as discussed above. The carcinogenic effect of alpha-emitting nanoparticulates has already been proven.

The findings of „unidentified bright objects“ in NF1 subjects and the hypothesis of intramyelinic vacuolization in Billiet et al (2015) also connect with alpha emitting nanoparticulates associated to an area accumulating negative charges ; the alpha decays cause the destruction of nearby cells, hence vacuolization (as the alpha „shots“ radiate in a star-like pattern around the nanoparticulate, causing then necrosis of the closest cells).

The inferior bone health of NF1 patients (Tucker et al 2009) – see also Tsirikos et al 2005 - leads to alpha decays in catalyzing areas located near bones, weakening their structure and making them progressively keener to break; with the gravity effect on the distribution of alpha-emitting nanoparticulates the tibias are particularly targeted and strongly weakened in NF1 patients (and from there the excretion of the

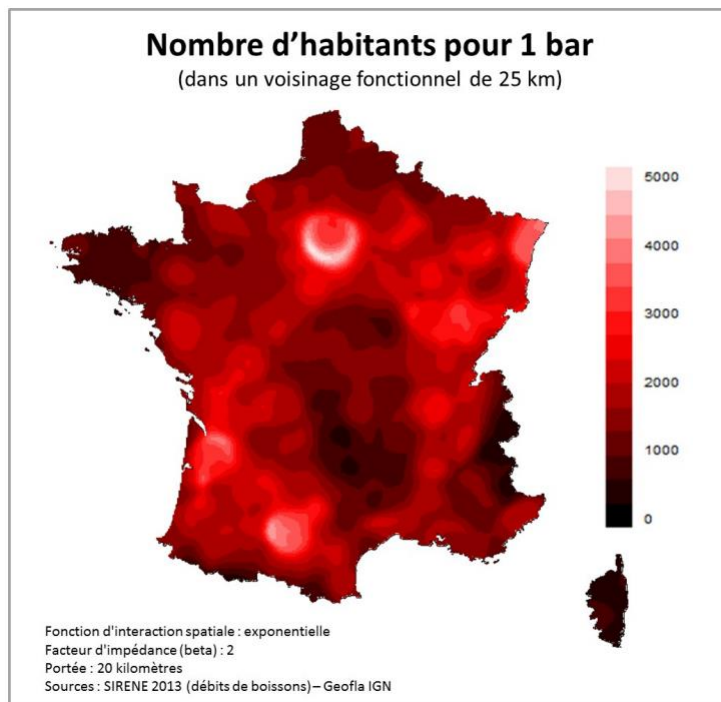
³ As concerns Yanfang et al 2002 and Fieber et al 2003, in cultures of mutant cells, the anions are obviously liberated and lost; but earlier aggregates of alpha-emitting nanoparticulates that have associated with the mutant cells, having caused necrosis of the immediately adjacent cells

all around them, remain associated with the necrosed group of cells as the mutant Schwann cells are extracted from the test subject to be cultivated, hence producing the effect on K⁺ currents.

nanoparticulates is harder).

Chronic idiopathic pain and learning and social deficits in NF1 subjects are also very well explained by alpha-emitting nanoparticulates decaying and destroying surrounding cells, in neurons and nerves (see again Pirot 2019a and b). In Zhu et al (2002), the Figure 1 – image D shows the accretion of nanoparticulates around the spinal cord leading to neurofibroma in the dorsal root ganglia is seemingly visible, small nanoparticulates are obvious especially under, and also at lesser level above the neurofibromas – likewise in image A near the neurofibroma under the skull. The vacuolization immediately around the nanoparticulates is obvious, confirming the alpha decay. Collection of dark spots along the neurofibromas are also evident in all pathology images, showing the accumulation of the alpha-emitting nanoparticulates causing development of the neurofibroma – cell necrosis in the immediate proximity of the decays, and the

„tail“ of the decay causing inflammation on the nerve where accumulated anions polarized the decay. In general, in this collection of biopsies as in most biopsies of neurofibromas the progressive advance of alpha-emitting nanoparticulates is obvious. Typically, the vacuoles are seen behind the nanoparticulates that stagger along the neurofibromas. Nerve cells loaded with anions are keeping the alpha-emitting nanoparticulates attracted; as they advance they leave vacuoles from earlier alpha decays behind them; and their alpha decays deal damage to the nerve cells themselves leading to neurofibroma formation. Because of the competing positive charges of the various alpha-emitting nanoparticulates, there is a „sinuous pattern“ as the clusters of nanoparticulates are both repelled by each other and collectively attracted by the mutant nerve cells, explaining the labyrinthine pattern of the vacuoles typically seen with in each vacuole a cluster of „dark spots“ at one extremity.



Which juxtaposes wholly with the map of radon

IV. Comments

Neurofibromatosis type 1 is clearly caused by a genetic mutation leading to an alteration of a channel causing accumulation of anions in nerve cells that hence become more attractive for alpha-emitting nanoparticulates, whose progressive damage leads to inflammation and pain,

tumorigenesis due to proximity effect, bone damage in the nearby bones that also receive some alpha decays from the nanoparticulates when the equilibrium of charges between the anion pocket in the nerve cell and the nanoparticulate has been found – subsequent decays radiate in other directions -, destruction of neurons

and cell necrosis in general.

Typically, the non-cancerous nature of neurofibromas is explained by the accumulation of anions leading to installation of many alpha-emitting nanoparticulates around, their progressive decay produces an inflammation but the body is still able to retain control on the nerve, avoiding proliferation due to bystander effect, with solely inflammation from the decays driving progressive growth of the neurofibromas (see Fletcher et al 2019).

The variety of conditions related to NF1, from optical glioma to neoplasms and bone weakening can only be explained by the effect of alpha decay from internal contamination with alpha-emitting nanoparticulates; the observation of currents shows a pattern typical of the accumulation of positive charges from the helium nuclei of the decay; the aggressive nature of many co-conditions also fits the pattern of alpha-emitting nanoparticulates⁴, as for the other forms of destruction in the body.

Green tea is a drink of high pH that hence fosters capture of alpha-emitting nanoparticulates and helps to their elimination with toilet use (see also for a particular case, electronegatively charged water naturally produced by soils in Pirot 2020, Applied Mathematics and Physics). Use of green tea by patients will help for the progressive excretion of the nanoparticulates, together with a reduction, as much as possible, of exposure to NORMs and other sources of alpha-emitting nanoparticulates (meats, especially red meats, are natural accumulators of heavy metals, including alpha-emitting nanoparticulates, and a meat-poor diet in combination with curcuma intakes has also been demonstrated to significantly reduce NF1 symptoms – see Esposito et al 2017).

Concluding comments

It is reminded that many observational cases, in private life, allowed the author to better understand the above effects.

It is reminded that cosmic fireballs⁵ are rich in

⁴ Of natural origin – with plutonium 239 for instance there is a relapse in activity as its half-life is shorter than the half-life of its decay product uranium 235.

247Cm and super-heavy actinides in general, causing a particularly thin fallout (gas-like plume of alpha-emitting nanoparticulates). Superthin dust has an ability to reach bone marrow superior to what is generally found elsewhere.

It is also reminded that sometimes, solar neutrons (or relativistic neutrons) can change the situation in the body and may increase demand for acid, as they cause fission, also leading to immediate damage in a specific pattern. And as concerns the "chemical dangerousness of uranium", the actual pattern is presented in Pirot 2021 and can be involved as well in all the above when alpha decay damage is underlined.

The linear-no-threshold model does not stop (of course) to alpha-emitting nanoparticulates and neutrons, it is a general model of energy intake to body reply.

It also is reminded the issue of meat-eating for instance as encouraged unconsciously by the consumption of alpha emitters as way to fasten digestion – e.g. through the deliberate drinking of unpure waters, from areas of high natural radioactivity and not decontaminated, or through use of Po210-rich cigarettes.

Supplementary data:

Publicly available datasets were analysed for this study. These can be found here:

https://www.who.int/healthinfo/global_burden_disease/estimates/en/index1.html

More data available on demand to the author.

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⁵ For general reference on the subject, read <http://pubs.sciepub.com/ijp/7/4/4/index.html> – relativistic neutrons are dealt with in the bibliography of this paper.

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