

# Can a Single Family Doctor's Leadership Save Local Community's Health? Or what is the Issue with our Bodies and Environment?



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## Abstract

Family Medicine is a wonderful profession, where the beauty of all medical specialties can be faced, if using your head, heart, intuition and hands properly. This work-field allows us to be the witnesses of a real diagnostic pearls and requires doctors to become investigators. Research work in rural, solo, primary health care practices is not an easy work to do - isolation, burden of the poor and diseased, overload, lack of resources and being under-valued by the National Government are the key factors of the delayed development of research in this field. Contemporary views show, that research develops by itself and we cannot stay indifferent to it. The up-to-date study methods are limited, which make doctors to look for the ways to grow up with and co-develop. For instance, a primary hypothyroidism is not an everyday diagnosis to meet in a family doctor's practice. It is actually quite a rare pathology. Even though benign solitary adenoma of a parathyroid gland accounts for 95 per cent of the cases of parathyroid adenomas, it still is a scattered phenomenon [1].

## Case Report

A woman, 64 years old, came to the private practice of a Family Doctor with complaints of too much calcium in her body, so much, that even through the regularly hygiene it influenced the patient's teeth and kidneys. The Familial history showed diabetes mellitus and cardiovascular diseases with hypertension only. Chronic conditions like non-insulin dependent diabetes mellitus, hypertension, light bronchial asthma, diffuse spondylosis, usually were the main concerns of the patient. But she complained rarely for her age [2]. Two sons and two grandchildren were raised, whereof, one grandchildren had bronchial asthma. The patient never smoked, nor was a passive smoker. She was even atypical as a diabetic- no complaints of polydipsia, polyuria or polyphagia, no problems to resist the food or with being overweight and glucose levels were always about 6 mmol/l- for a diabetic a very good compensation in the body. A slim lady, never tired, always full of energy, with no mood disorders, no bad habits or anything, just sometimes sudden back pain or renal colic, but never so serious to take the sickness leave. Usually she came just to get another portion of her daily medicines- metformin 1000 mg twice a day, telmisartan 80 mg a day in the morning and metoprolol 100 mg a day [3].

The only concerns were the highly calcium levels and unhealthy look of her face. Full examination of the body was done. The Ultrasound scan of abdominal organs showed adenomas of suprarenal glands at both sides of the body, also kidney stones of severe type appeared. Ultrasound of thyroidal gland and neck area showed no pathology. CT scan of abdominal organs confirmed the diagnosis of suprarenal adenomas and kidney stones. Radiography of thoracic region showed benign formation in the right lung, seemingly, non-specific. CT scan of the same region approved the previous diagnosis. Full blood count and biochemical serum tests were normal, except decreased levels of D3 vitamin and elevated levels of parathormone, elevated levels of calcium and glucose. Urine analyse were usually normal, no microalbuminuria, and just some salt presence appeared from kidneys in urine [4].

The patient was immediately sent to the secondary care. Endocrinologist in the period of two years provided 3 repetitive CT scans and MR scanning of the same parts of the body, which gave the same information. During this time the levels of parathormone and calcium increased even though the patient used the recommended

acidum ibandronic and Vigantol Oel (Cholecalciferolum 0,5 mg/ml) 16 drops a day. The thoracic surgeon said the lungs had benign changes and operation is optional and the patient can be observed with CT scans in a period of the half of the year [5]. The patient had enough of all this one day and turned to the private endocrinologist, who suggested providing explorative operation of the neck and thyroid region and in case of not finding the reason of hyper-production of parathormone they will take out everything as somewhere there had to be the causing problem. And so they did and did find the small, benign, solitary parathyroid adenoma, thereafter the colour of the patient face, appetite and overall feeling got better- only slightly elevated glucose levels and light hypertension increased a little due to that the adenoma was now taken out [6].

But the interesting part just begins- this patient had a daughter -in-law [her son's wife]- a young woman of 35 years age, rarely coming to the doctor, just a few times in case of catching cold. This time she presented with a non-specific anxiety, and a feeling of trembling inside. So, the full examination was done- and here comes the part, arousing curiosity - this young woman had the same changes in her body as the 64 year old lady. Blood biochemical analyses showed the same data of decreased levels vitamin D3, increasing and elevated levels parathormone, calcium [except elevated glucose levels-this patient was also slim and never had a risk for a diabetes, nor had the familial history of the kind]. The same data were found in her ultrasound of kidneys - in her young age the patient had severe kidney stones, while living a healthy way of life. In turn, the ultrasound of the region of the neck showed quite a large, benign, solitary parathyroid gland adenoma. The patient was forwarded to the secondary level health care and same examinations, but refused to go on with the treatment and did not come any more to see a family doctor, except when caught the cold.

## Discussion

This case was way to interesting not to investigate it- both the women were quite healthy, active, full of energy, with no familial history of oncologic diseases and had no bad habits, nor had information about bad conditions at their workplace. Both the women lived in the town of Salaspils, in Latvia. She and her daughter-in-law were not relatives and still had the same bodily changes. The common thing was they lived on one street in the next houses, which raised my curiosity - what was wrong with this place? The second common thing was that Salaspils town was established next to the river of Daugava, where the hydroelectric power station was present. And the third merging thing was that, the oldest patient's husband was a passionate fisherman, as he left for the dam in the morning and returned with full bag of fishes from this river in the very evening.

All the family crazy loved eating these fishes, and these two women were not an exception. The few studies suggest that hydroelectric power stations affect the riverbeds, increasing bacteria there, which, in their turn cause the usually non-toxic mercury to turn in methyl mercury, later ate by fishes. And the larger, and older fishes are the more methyl mercury they contain. This element

can leave the bad influence in human body, affecting the immune and central nervous system, kidneys, lungs and parathyroid gland. Research state that parathyroid gland hyperplasia can be linked with consumption of the methyl mercury. Also that people, who ate thermometers, had immediate granuloma tissue in their mouths, showing the possible relationship with new formations in the body like these two women had.

To avoid biases- in Latvia as a relatively poor country amalgam fillings of teeth in case of infection is still considered as the best one by dentists and only in the latest years it has been forbidden to use them to treat children. Such amalgam fillings in some articles are linked with the mercury poisoning due to the outflow of mercury. The second possible cause might be the presence of radioactive substances in the drinking water, as Salaspils town still has not got rid of the nuclear reactor, which stopped working in 1998, but still contains radioactive waste and is swallowed by Salaspils groundwater. Salaspils and, so called- Riga HES waters provide drinking water for the inhabitants of Salaspils town and the Capital city of Latvia, called Riga. The irregular nuclear reactor water leakage results in contaminated ground waters of Salaspils town, where tritium is 40 Bq/l [drinking water rate is 100 Bq/l, but the experts link it with possible leakage].

Research says that in some Salaspils places the sewage water already contains some substances but do not reach the level out of norm, still the experts of National University state that the waste is stored in old metal corpuses, that might start flow in any moment and that would cause the ecological catastrophe. They promise to do it this year again. Publication data say the environmental and health studies are limited, complex and unequivocal, but... we know better- the fish is caught, analyses of water, ground, and air are in progress, the study is ongoing and we will get to know the truth. The main thing is- not to be too late.

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