

# Mitochondria Transfer for Healing Degenerated Intervertebral Discs by using Male Educated Biological Transformations

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**Abstract** – The hypothesis refers to a personal experience of healing an advanced lumbar bilateral degenerative discopathy. The paper describes a presumable new and yet undiscovered cell transformation mechanism (called “biological transformations controlled by the mind”) involving mitochondria transfer from healthy cells to those which needs new mitochondria. From earlier research it is already known that: mitochondria can exist in the extracellular environment (due to their ancestral origin of being prokaryote cell); they can circulate through the recently discovered (and Nobel Prize awarded) vesicles, from one cell to another and inside the cell itself; they are the “power plant” of the cell. The extracellular matrix integrity of the intervertebral discs depends upon the ATP reactions produced by the mitochondria of the cells which are contained in the annulum. When reactions stop, the matrix disintegrate and the disc slowly degenerates over time. The hypothesis aim to show that the ATP reactions might be restarted (through mitochondrial transfer automatically produced after triggering the biological transformations). MRI analyses (taken before and after biological transformations) confirms the following: a) a degenerative lumbar process had been present, b) the degenerative process had been stopped and even more an intervertebral disc regeneration process started and c) the disease had been reversed to its earlier subclinical asymptomatic stage. However, we hypothesize that male (and female) cytotransformation is a natural biological and physiological process, potentially present in every human being but with particularized differences on male and female. A detailed research protocol of experiments and measurements can provide plausible explanations for this cellular biological transformation and possible application for the regenerative medicine, telomerase research, pharmacogenomics and other personalized medicine developments in the near future.

**Keywords** – Biology, Biological Transformations, Genome, Mitochondria Transfer, Transmutations, Telomerase.

## I. INTRODUCTION

According to their philosophical premise, the leadership of Center for Molecular and Mitochondrial Medicine and Genetics of the University of California, Irvine – School of Medicine, postulated that “Two organisms make a man: the nuclear-cytosol for structure and the mitochondria for energy. Each has its own genetic system” [1]. It had been proven that the mitochondria has an important role in aging and degenerative diseases. According to Dr. Xing-Tai Li from Dalian Nationalities University in China “Dysfunction of mitochondria has severe cellular consequences and is linked to aging and neurodegeneration in human” [2].

The lumbar degenerative disc disease, such as other similar diseases, are a very common health problem and is

estimated being present to “at least 40% of people aged 40 years old” [3]. Despite the fact that modern technology can make a good quality of life for the patients suffering DDD (degenerative disc disease), the disease itself have no known cure. Usually treatments are pain medication, chiropractic manipulation, epidural injections, ultrasound, electrical stimulation, therapeutic back massage, exercises and surgery. However, the pain may disappear after few years because a fully degenerated disc “no longer has any inflammatory proteins (that can cause pain)” [4]. This is not a good choice in waiting the pain to disappear.

Medical science said: “Sometimes, a disk swells, tears, or degenerates without any apparent cause. An intervertebral disc may go into a degenerative process either by deficiency in collagen, or in fluid cores, or even water deficiency...” [5]. But according to a published paper in Cellular and Molecular Bioengineering, June 2011, Volume 4, Issue 2, pp 302-310, “degeneration is the inability to maintain extracellular matrix integrity. Extracellular matrix synthesis is closely related to production of adenosine triphosphate (i.e. energy) of the cells” [6]. Obviously, that means the mitochondria inside the cell is no longer producing the adenosine triphosphate.

And while some cells do have hundred or almost one thousands mitochondria inside, like our muscles cells, others have very few, and in some cases they no longer work properly and need to be repaired or replaced, hypothetically speaking. However, recent investigations suggest that this is possible. According to a published paper in PLOS One journal “It has been reported that human mesenchymal stem cells (MSCs) can transfer mitochondria to the cells with severely compromised mitochondrial function” [7].

Even more recent experiments performed on mice, shows that this transfer of mitochondria can be performed in certain conditions. In his paper entitled “Mitochondria to the rescue”, published in Nature America, Inc. 2012 (pages 759-765), Darwin J. Prockop said: “A new study using a mouse model of lung diseases is the first demonstration in vivo that bone marrow-derived stromal cells can repair tissue injury through the transfer of mitochondria (pages 759–765). This suggests that rescue of injured cells through mitochondrial transfer may be an important process in many diseases”... “Much like the initial response of classical physicists to the discovery of subatomic particles, most biologists are skeptical about cell-to-cell communication that occurs through vesicles or particles - it's perhaps too messy and confusing. Nevertheless, there is conclusive evidence that cells can communicate through the transfer of vesicles and particles carrying lipids, proteins, mRNAs, miRNAs and DNAs” [8].

Also it is important to mention that the vesicle transport, which further proves the existence of cell-to-cell communication, had been discovered by James E. Rothman, Randy W. Schekman, Thomas C. Südhof which won The Nobel Prize in Physiology or Medicine 2013 and I quote: “for their discoveries of machinery regulating vesicle traffic, a major transport system in our cells” [9].

To complete the logic of these series of previous research, it is important to mention that according to this published paper “Mitochondrial transfer between cells can rescue aerobic respiration”, the authors Jeffrey L. Spees, Scott D. Olson, Mandolin J. Whitney, and Darwin J. Prockop suggested that “Recent reports have found that mitochondria play essential roles in aging and determining lifespan. A variety of heritable and acquired diseases are linked to mitochondrial dysfunction. We report here that mitochondria are more dynamic than previously considered: mitochondria or mtDNA can move between cells” [10].

According to National Geographic Daily News (online), the author Christine Dell'Amore published a paper entitled “How a Man Produces 1,500 Sperm a Second”. This astounding conclusion may strongly suggest that human males do have huge amount of cells, which in certain conditions may release their mitochondria into the blood/lymph stream. The paper also mentioned that “if germline stem cells stay stem cells for a long time and don't change into sperm cells, a man may be at risk of getting testicular cancer. But if germline stem cells too often develop into sperm, a man may become infertile” [11].



Fig.A. X-ray photo taken in 2001

However, according to the new biological transformations hypothesis, increasing the number of stem cells which changes into sperm cells may not lead to infertility but to an increase in number of mitochondria released in the blood/lymph stream by consciously performing the exercises for enhancing this kind of novel biological transformation.

## II. PROBLEM STATEMENT

The patient's health started to degenerate at the age of approximately 26 years old, (year 1990). Medical analysis uncovered a condition known as lumbar bilateral discopathy, as shown in the X-ray photo Fig. A performed in the year 2001. The condition had been characterized by the following symptoms: short acute lumbar pain, difficulties when performing twisting body movements. The symptoms slowly progressed in the timeframe 1990-2001, and more rapidly between 2001-2004, creating severe lumbar pain, problems while walking, repeated stumbles.

After performing the X-ray, the patient was subjected to an, almost daily, symptomatic treatment with anti-inflammatory drugs to relieve the pain, such as Ketonal Duo, Piroxicam 40 mg suppositories, and others more or less effective, simultaneously with myorelaxant drugs, such as Clorzoxazone. In addition to these, due to a much earlier headaches problems, the patient was subjected to vasodilatory treatment using drugs such as Fasconal P. The repeated multiple pain episodes influenced the patient's working ability and mental focus. At his own risk, the patient made a chiropractic appointment, and began to search alternative solutions for pain relieve. The treatment had been effective only for a short period of time.

A second medical analysis, called MRI (Magnetic Resonance Imaging) had been performed at the Emergency Military Hospital Dr. C. Papilian in Cluj-Napoca, Romania.

The diagnosis had been written as follows: Date: June 10<sup>th</sup>, 2004, Magnetic Resonance Laboratory: M.R.I. Examination Form: Target organ/Anatomic segment examination: lumbo-sacral vertebral spine. Patient: Muresanu Cristian. Diagnostic Evaluation: HD on L4-L5 Medial. M.R.I. Examination of the lumbo-sacral vertebral spine, performed on a “Picker-Proview” of 0,23 Tesla, in saggital sections FSE T2, sagital FSE T1, axial FSE T1 showing the following: -straightness of the lumbar spine; lumbar degenerated intervertebral discs; multiple discal protrusions, with external annulus rupture; median-paramedian right at L2- L3, median at L3-L4, paramedian left at L4-L5, with root touching on L5 left. This is an exact transcript copy of the original medical paper in English language.

During the winter of 2004, the patient began to experience on-going severe lumbar pain, day and night, almost daily, which lasted until February 3<sup>rd</sup> 2006. He used large and dangerous drugs combinations and quantities (against medical advice) such as Diclofenac, up to 850 mg/day, Piroxicam 40 mg/day suppositories, Clorzoxazone and occasionally Fasconal P. The symptoms could not be



reduced and the medication had lead to water accumulation in the body, weight gain and stomach pain.

### III. SOLUTION

After tremendous efforts and research into many area of alternative medicine, yoga, esoteric philosophies and diet, the author had been able to trigger and perform a natural, yet undiscovered by the medical western science, physiological process which had been called *biological transformations controlled by the mind* (BTCM). The author carefully observed his spectacular health improvement of the advanced lumbar condition and speculated that the BTCM means that the body have the capacity of self-healing if this mechanism is triggered, early as possible in one's lifetime.

The recovery had been proven by a second MRI investigation, performed exactly ten years later, in January 2014 and the results are shown in Fig. B. This is a scanned copy of the original medical paper with English translation inserted on it.

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**FIȘĂ DE RAPORT EXAMEN RMN**  
**REPORT FORM MRI EXAMINATION**

Patient name Numele pacientului:	MURESAN, CRISTIAN	1/30/2014 9:29:42 AM	CITY ORAS:	CLUJ	Cod patient:	RAMB3213	
Date of Birth Data nasterii:	5/10/1964	ID CARD CNP:	1640510120681	Address Adresa:	STR.FANTANELE NR.32 AP.85	Phone number Telefon mobil:	+04(0)751150855
Examinee Examinare:	RMN COLOANA LOMBARA	Medic Radiolog:	IULIAN, OPINCARIU (physician)	Tehnician:	CODRUTA, CHIROREAN		

Diagnostic de trimitere: Lumbare spine MRI

RMN COLOANA LOMBO-SACRATA:

L1-L2: fara conflict disco-radicular evident; canal lombar cu AP de 1.32 cm; gauri de conjugare permeabile cu AP de 0.46 cm.  
L2-L3: ingustare de spatiu intervertebral asociat cu o discopatie degenerativa incipienta cu minim prolaps global pana la nivel foraminial bilateral fara stenoză importanta a gaurilor de conjugare.  
Articulațiile interapofizare posterioare de aspect imagnostic normal.  
L3-L4: minim prolaps discal pana la nivel foraminial lateral, fara atingere radiculara.  
L4-L5: ingustare de spatiu intervertebral, cu modificari incipiente Modic 2 de conversie grasoasa osoasa de platouri vertebrale. Discopatie degenerativa cu extruzie discala postero-mediana cu LL de 1.30 cm, si un AP de 0.43 cm, extins pana la nivel foraminial bilateral cu tendinta la atingere radiculara in special in stanga. Canal lombar cu AP restant de un 0.88 cm.  
L5-S1: ingustare de spatiu intervertebral cu tendinta la desirarea inelului fibros postero-median pe o distanta de 0.65 cm, cu osteosclerol liniar in ponderata T2; gauri de conjugare libere.  
Rectitudinea coloanei lombare.  
Anghion corporal L3, fara fractura/tasare vertebrale.

**LUMBO-SACRAL SPINE MRI:**  
L1-L2: no visible disco-midular conflict; lumbar channel with an aperture AP = 1.32 cm; permeable conjugation holes with an aperture AP = 0.46 cm.  
L2-L3: narrowing (shrinking) intervertebral space, associated with an early stage degenerative discopathy with minimal global prolapse up to the bilateral foraminial level, without significant stenosis of the conjugation holes.  
The posterior facet joints have normal imagnostic appearance.  
L3-L4: minimal disc prolapse up to the lateral foraminial level, without radicular touching (of the root of the nerve-p.)  
L4-L5: narrowing (shrinking) intervertebral space, with incipient modifications type "Modic 2" of bony conversion of the vertebral plates. Degenerative discopathy with postero-median discogenic extrusion of LL = 1.30 cm, and an aperture AP = 0.43 cm extended up to the bilateral foraminial level with radicular touching tendency (of the root of the nerve-p.), mostly on the left side. Lumbar restant channel with an aperture AP = 0.88 cm.  
L5-S1: narrowing (shrinking) intervertebral space, with the tendency of unravelling the posteromedian annulus ring on a distance of 0.65 cm, with osseous linear signal in ponderation T2; conjugation holes free.  
Straightness of the spine.  
Corporal angiomia L3, without fracture without vertebral compaction

**CONCLUZII:**  
Discopatie degenerativa incipienta L2-L3, L3-L4, L5-S1 cu prolaps global pana la nivel foraminial bilateral fara atingere radiculara evidenta sau stenoză de gauri de conjugare.  
Ingustare L4-L5 cu extruzie discala postero-mediana de 1.30/0.43 cm, extinsa la nivel foraminial predominant stang.  
Modificari de conversie grasoasa Modic 2 de platouri vertebrale L4-L5 si L5-S1.  
Rectitudinea coloanei lombare.  
Fara fracturi/tasari vertebrale lombo-sacrate pe fond patologic.  
Fara hipertrofi de capsule articulare sau de ligamente galbene.

**CONCLUSIONS:**  
Early stage degenerative discopathy L2-L3, L3-L4, L5-S1 with global prolapse up to the bilateral foraminial level without visible radicular touching (of the root of the nerve-p.)  
Shrinking (narrowing) L4-L5 with postero-median discogenic extrusion of 1.30/0.43 cm extended up to the predominant left foraminial level.  
Modifications of bony conversion type "Modic 2" of the vertebral plates L4-L5 and L5-S1.  
Straightness of the lumbar spine.  
No fractures no vertebral compaction at the lombo-sacral from pathological point of view.  
No joint capsule hypertrophy of the yellow ligaments.

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Fig.B. MRI investigation performed in January 2014

There are no more protrusions, no vertebral compaction, no annulus rupture and it had been pronounced as early stage illness. Presently, this early stage lumbar discopathy is completely asymptomatic and it causes no more pain since approximately 2013 until present.

### IV. RESEARCH PROPOSAL

Based upon the idea of mitochondria transfer, the healing process of this particular degenerative condition (incurable through classical medical means) can be explained as a biological transformation of some available "donor" cells, having a great number of functional mitochondria. Yet this remained to be proven, the most plausible donor cells, capable of biological transformation on male body are the reproductive cells. The author performed specific exercises and attitudes which had been implemented in his daily life, as shown in his peer reviewed published book called "Biological Transformations controlled by the Mind" [12]. Although the applied techniques and teachings are well known, in most of the Indian eastern traditions, no research and no scientific investigations had been performed and no scientific hypothesis had been clearly formulated. In the book, the editor Siva Somasundaram, professor at University of Houston-Victoria proposed the following steps for creating a full research protocol of the biological transformations:

"Our approach involves analysis of the following scientific parameters before and after biological transformation among healthy participants of both genders in various age groups between (20-45 years). a) Assessing the telomere sequences in somatic cells according to age - a biomarker indicator of aging and aging related diseases. b) Measuring the telomerase enzyme gene transcription activators in somatic cells - a biomarker for telomere sequence elongation. c) Monitoring the spermidine levels in white blood cells - a marker of autophagy (a remarkable stimulatory function performed by the white cells to remove the dead cells and unwanted cellular debris including cellular toxins to boost the immune system and prevent the cellular mutation for cancer or any gene targeting disease). d) Assessing the cognizing ability - a method to analyze the neuron activity in the brain, including neuroendocrine secretions and memory stimulations. e) Assessing the dietary habits and patterns - a marker of the leptin level, hunger, obesity and the proper functioning of digestive system. f) Assessing the tolerance level for various psychological stresses - a biomarker for mental attitude. g) Analyzing EEG/ECG and lung function tests - a biomarker of vitality. h) Assessing all of the blood biochemical parameters - biomarkers of general well-being and vitality. i) Assessing the personality improvement test - an indicator of introspection."

According to the latest discovery of inter- and intra-cellular transport through vesicles, additional science analyses may be introduced, such as mitochondria marking, using GFP (the green fluorescent protein), which is a discovery awarded with the Chemistry Nobel Prize for Glowing Protein Work [13]. This procedure had not been yet approved for being performed in vivo, but it could be applied in the near future.

As presented and documented by science [1]-[11] the mitochondria transfer is possible and thus cell repairs is also possible. The author triggered the reproductive cell

transformation using educated muscles contractions. These exercises favor the conditions through which the cells actually sacrifice themselves releasing their own mitochondria into the blood/lymph stream. From the blood/lymph stream the mitochondria are then transported (possible through vesicles) at other somatic cells which need mitochondria replacement. The exercises aim are to create physical pressure inside the seminal vesicles, without ejaculating the seminal fluid outside, but rather forcing it going into a kind of transformation-recirculation process. This can be performed in practice but it is still unclear if the process follows precisely this path or it is much more complex than that. Currently there are no scientific means to mark the mitochondria inside human living seminal cells, with a GFP protein, and visualize their path using advanced imaging technology, while the test subject is performing an educated biological transformation.

## V. CONCLUSION

- The existence of the *Biological Transformations Controlled by the Mind* (BTCM) opens a new avenues in the understanding of the human cell biology, human genetics and, especially, the human physiology (including medical and psychological applications). It does not contradict the current paradigms and the basic knowledge but it shifts, enlarges, expands and enhances them. The practical application of this new understanding can avoid the premature occurrence of illnesses and aging processes in human body, self-healing or amazing amelioration of certain chronic diseases.

- BTCM are particularly important in creating an enhanced physiological, mental and physical human being, capable of long term efforts, higher capacity of focus upon solving complex job problems, amazingly less food needs, and half time sleep per 24 hours, feeling and living perfectly healthy and happy.

- BTCM can literally create a new enhanced human being, no matter the genre, race, if it is presented in the educational system since younger age. Even if one fails to get in contact with BTCM techniques and information in his or her youth, this entire process can be developed and enhanced until the age of 50's without considering the age of 50 as being a precise limit, but the advance the age is the difficult of this project to apply is.

- BTCM can be studied both practical and theoretical, using known scientific methodology in order to uncover a new and undiscovered phenomenon in human physiology. The aim of the scientific approach is to prove the existence, the effects, the benefits and the outcome results of a new and yet undiscovered human physiology.

- BTCM cannot be studied through conventional research grant application because it aim toward a phenomenon yet undiscovered by the Western Science, so this is a completely unconventional research. The proposed activities are based upon practical and theoretical education of the human subjects, as well as laboratory tests and controlled experiments.

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## REFERENCES

- [1] Center For Molecular And Mitochondrial Medicine And Genetics (MAMMAG), University of California, Irvine - School of Medicine, "Philosophical Premise", (Online). Available: <http://www.mammag.uci.edu/philosophical.asp>
- [2] Xing-Tai Li, *Investigation on the Mechanism of Qi-Invigoration from a Perspective of Effects of Sijunzi Decoction on Mitochondrial Energy Metabolism*. Available: <http://dx.doi.org/10.5772/54760>
- [3] Ontario Health Technology Assessment Series 2006, 6(10): 1–98. Paragraph "Clinical Need", (Online) PMID: PMC3379529 Available: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3379529/>
- [4] Spine-Health (Online) "Lumbar Degenerative Disc Disease (DDD) Available: <http://www.spine-health.com/conditions/degenerative-disc-disease/lumbar-degenerative-disc-disease-ddd> WebMD Medical (Journal Online). Available: <http://www.webmd.com/back-pain/guide/understanding-spinal-disk-problems-basic-information?page=2>
- [5] J. C. Salvatierra, T. Y. Yuan, H. Fernando, et. al., "Difference in Energy Metabolism of Annulus Fibrosus and Nucleus Pulposus Cells of the Intervertebral Disc", in *Cellular and Molecular Bioengineering*, June 2011, Volume 4, Issue 2, pp 302-310, Abstract.
- [6] M. C. Young, J. H. Kim, M. Kim, et. al., "Mesenchymal Stem Cells Transfer Mitochondria to the Cells with Virtually No Mitochondrial Function but Not with Pathogenic mtDNA Mutations", in *PLOS One*, (March 06, 2012); DOI: 10.1371/journal.pone.0032778, Abstract.
- [7] D. J. Prockop, "Mitochondria to the rescue", in *Nature America Inc.*, (2012), pp 759-765.
- [8] Nobelprize.org, "The Nobel Prize in Physiology or Medicine 2013", Nobel Media AB 2013, (Feb 5 2014). Available: [http://www.nobelprize.org/nobel\\_prizes/medicine/laureates/2013](http://www.nobelprize.org/nobel_prizes/medicine/laureates/2013)
- [9] J. L. Spees, S. D. Olson, M. J. Whitney, and D. J. Prockop, "Mitochondrial transfer between cells can rescue aerobic respiration", in *PNAS, Proceedings of the National Academy of Sciences*, January 31, 2006, vol. 103, No. 5 pp 1283–1288, DOI: 10.1073/pnas.0510511103, Abstract.
- [10] C. Dell'Amore, "How a Man Produces 1,500 Sperm a Second", National Geographic Daily News (Online), Available: <http://news.nationalgeographic.com/news/2010/03/100318-men-sperm-1500-stem-cells-second-male-birth-control/>
- [11] C. Muresanu, S. Somasundaram, "Biological Transformations Controlled by the Mind Vol. 1", in *AlphaGraphics Sugar Land*, Editor: Siva Somasundaram, UHV Houston, 2012, pp 8-11, 95, 96 ISBN 978-0-9888403-0-0.
- [12] K. Ravilious, "Chemistry Nobel Prize Awarded for Glowing Protein Work", in National Geographic News, (Online), October 8, 2008, Available: <http://news.nationalgeographic.com/news/2008/10/081008-nobel-chemistry.html>

## **AUTHOR'S PROFILE**



### **Cristian Muresanu**

Romani, Cluj-Napoca city, b. May 10<sup>th</sup>, 1964. Attended School of Art, Music profile (cl.1-7, 1971-1977), and then 12K School "Gh Baritiu" electrical profile (cl.7-12, 1977-1982), then continued his studies at the Polytechnic Institute of Cluj-Napoca, Faculty of Electrotechnic, Electronic Department (1982-1988),

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He then got hired as Radio journalist, (1990-1995), and then TV journalist (1995 until present).

Mr. Muresanu participated in the 2006 edition of Science Journalism, from which he receives the Diploma of Science Journalists, offered by the National Commission for UNESCO, consisting of leading figures from the Romanian Academy within representatives of the Ministry of Education, Science and Education. The diploma and the prize were granted to the author for two of his Romanian published books about climate science and promoting higher education programs through Romanian Television. List of the very latest publications: Biotransformations controlled by the Mind, International Journal of Emerging Sciences, Vol. 1(2), pag. 45-61, June 2011 (<http://ijes.info/1/2/4254121.pdf>); Biological Transformations controlled by the Mind, Volume 1, 100 pages, May 2013, UHV University, Texas, U.S.A. book editor Siva Somasundaram, ISBN 978-0-9888403-0-0; Biotransformations controlled by the Mind, Second Revised Edition, 354 pages, Publisher "Ecou Transilvan", Cluj-Napoca, Romania, 2012 (published with the support of Muresanu Fior Dafin, MD, PhD, MBA, Professor of Neurology, Chairman of the Neurosciences Department, University of Medicine and Pharmacy "Iuliu Hatieganu" Cluj- Napoca, member of the Academy of Medical Sciences, Romania and President of the Society for the Study of Neuroprotection and Neuroplasticity.).