



Letter to the editor

Practice of neurosurgery on Saturn

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ABSTRACT

Background: The practice of neurosurgery on Saturn is almost identical to the one practiced on Earth. Because the art of practice of Medicine was transferred by homo sapiens sapiens “exearthed” 30 years ago from Earth to Saturn.

Methods: In this paper, we present three neurosurgical cases and provided management of them on Saturn.

Results: In two cases, the patients underwent surgery; in one case, the surgical indication was not established.

Conclusion: These cases give us the means of reflection to improve the practice of Neurosurgery.

1. Introduction

We practice Neurosurgery on SATURN in a country called « ILLUSIONLAND ». 60 million homo sapiens sapiens who live in this country migrated 30 years ago from the Earth. According to anatomical data, there is no difference between terrestrial and Saturnian homo sapiens sapiens. Modern medical and surgical technology has also been imported from Earth. The Saturnians of earthling descent of the earth-lings have roughly kept the same way of life, society, habits, etc. they inherited from their earthly ancestors.

In our country, ILLUSIONLAND we have two health systems. Private independent doctors and government-employed doctors who practice in hospitals. We present two clinical cases of the practice of Neurosurgery on SATURN. The main difference between the cases on Saturn with clinical cases on Earth is that on Saturn, both doctors' and patients' clinical cases are simultaneously presented.

1.1. Saturnian clinical case 1

1.1.1. First part

Doctor D.P. 52 terrestrial-year-old male (Saturnian 1 year 10 months old), obtained his doctoral degree of specialization at the age of 29 and was recognized as the second for its promotion in Medical School. As a young neurosurgeon, he is as active as when he was a resident and passed his fellowship. He operates every day, visits many patients during the day, and stays late at the hospital. He always offers to cover his colleagues' on-call shifts if they have difficulties. He holds three master's degrees and a Ph.D. He writes medical papers. He attends different congresses and seminars. As an example, he takes the Saturnian rocket to participate in the annual conference of the world Saturnian Federation of Neurosurgeons which takes place in “Utopia” the country located 200,000 km from his workplace. He is curious and wants to know everything about everything in his profession, especially about new surgical techniques. He asks his hierarchy about their experiences. He wants to participate in all the surgeries. In general, he stays in the hospital until 10 p.m. To have time to read an article or two, he quickly

grabs a sandwich for lunch instead of going to the canteen. At home, even in bed, he thinks of cases he has seen during the day (Saturnian day which lasts only 10 h 30). When his secretary or a colleague from the emergency room calls him for a patient, he says: “Add them to my patient's list. I'll see them” so the consultation which officially lasts 4 h lasted 6 h sometimes 7 h. His colleagues know that they can count on him to take a night's call or take care of an additional patient because he does this with joy.

Today, 23 years after (10 Saturnian months) Professor D.P. realizes that he is married and has two children, but he knows nothing about them. He does not even remember any details of his marriage. He just remembers that reading medical papers on his own was the best moment of his rare holidays with his wife. Today, he realized progressively that surgery makes him more tired, physically, both mentally. Today, unlike 20 years ago, when there is a new addition to the consultation list, he grumbles and answers the secretary with this leitmotif: “*Is it really urgent? Is it a matter of neurosurgery? or as usual the guy has boo-boos and he comes to piss us off!*”

1.1.2. Second part

The patient is visited by Professor D.P. 82 terrestrial (3 Saturnian) year-old male. He weighs 103 Saturnian kilograms (the equivalent of 96 kg on Earth) and measures 165 cm. BMI is 35.5 (severe obesity). The patient has a history of cardiac bypass, bronchopneumonia, atrial fibrillation, and renal failure. He is under SERANIKIPINE (an anticoagulant manufactured in the Saturnian pharmaceutical factories). For several years, he has had low back pain. The latter is worse when he walks. He presents severely impaired walking and recently, balance disorder. He suffers more and more and always feels tired and weak in his inferior limbs. He also presents permanent paresthesia. The walking distance is less than 50 m now. Professor D.P. finds abolished osteotendinous reflexes in lower limbs, alteration in the total bulk of the muscle, and severe hypopallesthesia; sensorial and proprioceptive sensitivities are also affected stiffly. Lumbar spine Zetrography (a Zeta ray imaging technology designed on Saturn) revealed a severe canal lumbar stenosis with a sagittal diameter of 9 mm in L4-L5 and L3-L4 levels.

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Professor D.P. knows that this is an absolute indication for surgery, but he hesitates to talk about it with the patient. He analyzes. He thinks: this old man is suffering, he has to be operated on, and nothing else will work, but given his extensive history if he goes into cardiac arrest on the operating table, what are we going to do? My reputation would take a sound beating. I would get into trouble, I don't want that. The "reason" finally takes over. He told the patient: I am not so sure that the surgery will help you, at this advanced stage of your disease surgery cannot help you. I would propose you the following treatment: Even as he speaks, Professor D.P. realizes his unconvincing voice that he unconsciously adopts. The patient leaves the doctor's office feeling quite dejected. In his despair, his JP had given him great hope that the professor would propose his surgery and the latter could significantly reduce his problems. No other neurosurgeon in the hospital will receive the patient for ethical and relational reasons. In the meantime, the patient suffers enormously, becomes almost bedridden, and gives in to his « fate ».

What is the best course of action?

1.2. Saturnian clinical case 2

1.2.1. First part

Doctor I.S. young a 28-year-old man (approximately one Saturnian year), a recent graduate in Neuro-surgery, since 6 months he can be on-call as senior surgeon of the hospital. The first on-call night was memorable for him. Every time the on-call intern called him and asked his opinion, he felt a sense of pride and accomplishment. The Night was especially very busy and he had to operate an epidural hemato-ma and a fracture of the anterior cranial fossa, but the next morning, despite the fatigue and lack of sleep, he made a transmission to his on-call colleague, he felt happy and assumed his consultation without any difficulty and left the hospital like every other day.

1.2.2. Second part

A 47-terrestrial-year-old female (nearly two Saturnian years) comes to the Emergency department with symptoms of balance disorder, dizziness, and nausea. She already presented the loss of hearing. She is visited by the on-call resident in neurosurgery. The resident gets things right. He managed to obtain a brain Zetography for the patient. The latter shows an acoustic neuroma in the cerebellopontine angle. It is not late. It is Saturnian at 7 o'clock (the equivalent of 4 o'clock in the afternoon on Earth), Doctors have not yet left the hospital. The resident of Neurosurgery takes the opportunity to show the images to his on-call chief (Doc-tor I.S.). Doctor I.S. suddenly feels the hot blood mount to his cheek: a powerful feeling of joy, a sense of emotional well-being. His brain analyzed within a fraction of a second. He finds in this patient an excellent opportunity to realize an operation of the posterior fossa; acoustic neuroma, a prestigious surgery, a domain that is almost the prerogative of the bosses. As the custom is that the patients hospitalized on each guard will be managed by the chief on-call surgeon, with a bit of luck, and except for the open opposition of the head of the department, he can perform this surgery himself. A surgery he has never performed alone. He only helped his bosses 3 or 4 times during this kind of surgery. Dr. I.S. evaluates the MRI images. Based on the size of the tumor, either surgery or ZEKAKNIFE (another medical technology invented by Saturnian homo sapiens -equivalent of gamma knife-) may be indicated. However, the temptation is strong. Dr. I.S. tells his resident that the case requires a surgical procedure. He goes to the patient in an energetic and decisive manner. He finds the patient beautiful. She has oval eyes and prominent cheekbones. He thinks for a quick moment: It is a pity that she has a facial palsy. Perhaps it would be better for her to perfume ZEKAKNIFE...No! He cannot let that opportunity go by. After all, there will not be another opportunity like this to operate an acoustic neuroma in the near future. Non!! He nips the thought in the bud as soon as it appears in his mind. He introduces himself to the patient and explains the tumor they discovered in her MRI. He stresses the severity of the

problem and the location of the tumor that can lead to coma or other severe complications in the absence of rapid treatment. During the doctor's explanation, she looks alternately at the resident and his chief as if she wants to beg them to save her from this nightmare and tell her she does not have a tumor and it was only a bad joke. However, she faces two im-passive and expressionless faces. She asks the doctors if there is an alternative option to surgery, and the doctors see no other option. The patient concludes that she must be absolutely operated on. At some point, when the doctor talks about facial palsy, she starts to tear up: After 10 years of solitude, a month ago she met a man she liked. He fancies her too. She had plans for her life. She felt happy. She wonders: what will happen with facial palsy and a deformed face? The man will dump her. She is doubly unhappy.

What to do? Who can do something?

1.3. Saturnian clinical case 3

1.3.1. First part

Doctor E.L. 48 terrestrial-year-old male (Saturnian 1 year 6 months old). Well-known neurosurgeon. He works in a big provincial city, the Capital of the department, in a major private clinic. He has an important practice population thanks to his reputation among the region's referring physicians. 20 years ago, immediately after his fellowship, he settled in this region and has a quiet and comfortable life far from the university hospitals. That evening, during dinner, a discussion with his wife, regarding kitchen renovation turns sour and is transformed into a violent conjugal argument. The wife tells her husband that she is fed up with this kitchen made of this Saturnian dark brownish stone and she would like to have a kitchen made of good wood coming from the forest of the Earth. DR E.L. considers that they are spending a lot of money lately. His wife finds it offensive and replies that almost everything she spends is for their house and therefore for her husband, not for herself. Dr. E.L. retorts that he has no expenses either. His wife notes that she regretted leaving her job and following her husband to rot in this cursed city, and she regrets the fact she has no personal income and she must always « beg » for miserly sums from her husband who is a first-class skinflint. Dr. E.L. quite offended, reminds his wife of the useless expenses of these last few months like covering the floor of the living room with marble, building a veranda, a new pool at home, and buying a cottage in the mountains. Their voices get louder and angrier on both sides. The battle continues and the wife leaves the house at 8 o'clock P. M. and slams the door behind her. Dr. E.L. distraught, remains motionless in front of his half-eaten plate on the table. He tries to calm down and to forget but the scene of the dispute with his wife keeps coming back. He goes to bed, as usual at 11 p.m. With his head full, he tries to read to calm down but cannot concentrate and sleep. However, he remembers that he has an important surgery tomorrow and needs to rest, decides to take a sedative. He knows that it makes him slightly drowsy. Therefore, he takes half a pill of IDINEXAZEPAM (a GABAergic benzodiazepine drug manufactured in the Saturnian pharmaceutical factories). He wakes up in the morning at 5 o'clock instead of the usual 6 o'clock. The first thing that comes to his mind is the argument he had with his wife yesterday. He thinks of his wife and gets angry at her incomprehension and ingratitude. He tells himself that she can go to hell. He leaves the house to go to the clinic, with a headache.

1.3.2. Second part

45 terrestrial-year-old male, bank worker, married with three children, satisfactory financial and social position. He has no particular medical history. Slightly overweight. He has had low back pain for the last 3 years. In the beginning, the pain was occasional, but it becomes increasingly important. It is persistent to rest and especially at night and it is accompanied by prolonged morning stiffness. Many therapeutic attempts resulted in failure. On the advice of doctors, he lost weight. He did physiotherapy, muscle stretching and building, and balneotherapy. He used the medical belt and had epidural and facet infiltrations and

radio frequency all without success. His last lumbar spine MRI shows a degenerative disc disease with V Pfirrmann grade in L5-S1 disc and a II Modic sign. He meets Doctor E.L. who recommends surgery given the failure of past conservative treatment. The patient is happy. Finally, he has the hope that his back problem will be resolved with surgery after three years of hardship.... Doctor E.L. begins the surgery in silence. His assistant stares at him. She notes that he avoids her gaze and is laconic. He asks her curtly for the instruments and takes refuge in his silence. His assistant does not know he is still affected by the dispute he had last night with his wife. He really doesn't want to do surgery today. He wants to finish it as soon as possible. The surgery seems so long to him, however, he works as usual. The time comes to put in the last two screws and to shorten this surgery that weighs heavily on him like a chore, he said to himself: there is no need to check the position of the screws by C-Arm. He convinces himself: I am experienced enough to put two screws after so many years of surgery without restoring to C-Arm. He speeds up the surgery. At the time of screwing the left L5 screw into the pedicle that he has put without too much attention, the patient moved his left foot and the screwdriver goes into a freewheeling. Dr. E.L. understands that he deviated and probably the screw touched a nerve root or nerve ganglion. He muttered some insults. He unscrews the screw and puts it back in the right direction. This time the position of the screw seems to be correct. He continues the surgery and puts in the last screw, puts in the rods, tunnels the drain, does the hemostasis, and closes the patient. The patient wakes up with sharp pain and paresthesia in his left leg, unresponsive to morphine. A lumbar spine MRI is carried out immediately and ensures the absence of any complications. The screws are in a good position. However, the doctor has an idea. He is almost sure of the origin of this pain but he keeps it to himself. The patient will be relieved of low back pain. However, he will suffer for a long time from his lower limb debilitating pain and will try several molecules (PREGABALINE, GABAPENTIN, AMITIRPTILIN, CLOMIPRAMINE, CARBAMAZEPINE, etc.) without really being relieved. He will be referred to the pain-treatment center.

2. Discussion

Neurosurgical practice like all the disciplines of medicine involves a high mastery of the neurosurgical techniques, well-established know-how, and substantial experience in surgery and in clinical components. Three cases reported in neurosurgical practice on Saturn show us that despite the importance of such skill mentioned above, other factors miss in the optimal practice of Neurosurgery. However, Saturnian neurosurgeons take the Hippocratic oath like their terrestrial colleagues [1]. Is the oath a mere formality? Is it a nostalgic look back to the past? Is it a real promise of commitment? A promise or a commitment in the prime of the working life? And for an answer in the affirmative, do promises always become commitments? What will guarantee these commitments?... During the war, during a disaster? In a fit of anger? When going through a period of deep disappointment? Facing a great betrayal? During illness, burn-out?...When energy and motivation of youth disappear?... So many critical and difficult situations to go through! What is the solution? More powerful controlling institutions? Install a chip in the neurosurgeon's head and control him through with Artificial Intelligence? Or can we expect to have neurosurgeons like Dr. "KIRILOV" in CHEKHOV's short story [2]? The question which arises here immediately concerns Dr. "TROUPKINE". By what accounting or human logic did he react in the situation in which he found? Is he a "trained" and "educated" doctor or a "formatted one"? These are among the many questions we must answer.

3. Conclusion

In this paper, we present three neurosurgical cases and provided management of them on Saturn. These cases give us the means of reflection to improve the practice of Neurosurgery.

Compliance with ethical standards

- The authors declare that this is an observational study. The Research Ethics Committee of Centre Clinical de Soyaux has confirmed that no ethical approval is required to/from an IRB, and they did not require written consent.
- The authors declare that Informed consent was obtained from all individual participants included in the study.
- The authors inform that their manuscript does not contain any individual person's data in any form.
- The authors declare that there is no conflict of interest.
- Doctor Keyvan MOSTOFI declares that he has no conflict of interest.
- Dr. Morad PEYRAVI declares that he has no conflict of Interest.
- The authors declare the availability of data and materials.

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Conflict of interest statement

The author declares that there is no conflict of interest.

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