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At the instant of Pronouncement of untimely "Death" A novel non-invasive procedure of Cerebral Resuscitation by application of Electromagnetic Audio-Audiovisual Stimulation (EMAS)

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Abstract

The health community knows that there are cases of unfortunate clinical deaths, and in due course leads to brain death, which is by cessation of brain's electrical activity. Many deaths take place because of mechanical problems or human errors in several procedures in Operation Theatre. Including, conditions of suspended animation like Comatose, vegetative state and unresponsive conscious condition. Unfortunately, all resuscitation methods concern breathing, heart beat and blood circulation, including Defibrillation or electric shocks through chest etc. There is no direct resuscitation of cerebral activity in any method. This paper is about revival of conscious brain activity under distinct conditions. These are, if the patient is not suffering from fatal decease and the patient was not undergoing life threatening procedure and has almost all internal organs healthy. Such cases have an opportunity of "One Percent Chance" of regaining consciousness by the patient, through an Electromagnetic Stimulation (EMS).

Keywords: Anaesthesia, untimely clinical death, death, resuscitation, cerebral resuscitation.

Introduction

It was reported that the doctors, other medical experts treating Michael Schumacher, the Formula1 champion, who was Comatose after his skiing accident since 29th December 2013, have told his family that "only a miracle" can save him[1, 2].

This means, the present medical science's known treatments and solutions for patient's revival are exhausted or ineffective. Hence, there is a need of a novel method.

The paper here presents those novel methods, which are not only for medical science community but also for the patient's family and close relatives. Therefore the language used here is less technical and comprehensible for citizens of all background. After all, what matters is the life of the patient and his or her family.

The medical community knows that there are cases of untimely clinical death, and eventually, brain death, which is by cessation of brain's electrical activity[3]. Many deaths occur because of technical problems or human errors in several procedures in the operation theatre, e.g. in administration of anaesthesia, improper anaesthetics, unforeseen complications during and after the operation.

There are cases of unknown cause of inexplicit nature of sudden unexpected death. A Death during General Anaesthesia was reported as early as in 1903 by an American scientist[4].

Dr. Steven Shafer, Anaesthesiologist and Propofol expert at Michel Jackson trial made this statement in the court that, quote*:* .... worst disasters occur in Operation Theatre, when sedation is administered. Not during or because of complicated Heart Surgery or Brain Surgery but when people cut corners during anaesthesia application. Any anaesthetic administration will stop breathing and without Air way equipment to maintain some oxygenation including all other monitoring equipment of heart, pulse, capnograph, blood pressure, brain graph etc; the patient will die within 5 to 10 minutes[5].

There has been such report of death and loss of Consciousness without any life-threatening conditions[6]. Clinical death is observed at the cessation of blood flow and breathing. It occurs in a condition called cardiac arrest[7].

Moreover, Clinical death is not necessary or sufficient for declaration of a "legal death". A patient with working heart and lungs can be a case of brain dead and pronounced legally dead not including clinical death. Ironically, with advancement of scientific knowledge and medicine, a precise medical definition of death is ever more challenging[8]. The other cases known as conditions of suspended animation like Comatose, vegetative state and unresponsive conscious condition would also be considered for resuscitation of Brain activity. This again is an applicable method of EMAS only in case; the other vital organs are healthy except the organ which was under operation. This can include an operation of neurosurgery which was required against brain injury.

Material and Methods

Under specific circumstances, if the patient is not suffering from fatal decease and the patient was not undergoing a life threatening operation and has all internal organs healthy, a possibility of "One Percent Chance" of the patient regaining consciousness by an audio and audio-visual stimuli.

All three patients and their families are family friends of me (the author) and have been happy to see somebody suggesting a new resuscitation method, analyzed from their experience.

Results and Discussion

A male patient, after fatal paralysis attack, crippling his left half of body was on mechanical ventilation and pacemaker. He was non-responsive for 18 to 20 hours. The patient should have been declared clinically dead at least 12 hours back. The scientific intervention was of a low audio frequency of around 100 Hz induced in late night near the patient by his late father's 3 colleagues, who vocally recited a poem. Normal human voice frequency can vary between 85 to 180 Hz to which, a Conscious reaction was observed. It was an invoked gesture, made by the patient. This gesticulation of slow movement of right arm rising from the bed surface to higher level of patient's body and back to the bed lasted for 5 to 6 seconds. However, after repeated utterances of the same verbal audio narration, the patient did not survive as his physiological condition was bad.

Another female patient after her minor abdominal operation, delayed in coming back to senses. Doctors were worried and discussing on what could have gone wrong. Following remembrance of her son in visual, she regained consciousness and survived by resuscitation.

Third patient, who was under general anaesthesia for her orthopaedic surgery, did not return to consciousness for 30 seconds to 1 minute and regained consciousness later.

By her own narration, she stated that she wanted to tell her husband about her experience during that period of more than 40 seconds, which was for the team under panic in Operation Theatre, a case of possible unexpected death. At the instant, the female remembered her husband with a desire to narrate her unconscious episode, she came back to senses.

Discussion: Brain function and Consciousness has been rigorously debated since decades even by physics community.

Few theoretical physicists have argued that classical physics is intrinsically incapable of explaining the holistic aspects of consciousness, but that quantum theory provides the missing aspects [9]. However, some physicists and philosophers consider the arguments for an important role of quantum phenomena to be unconvincing. Physicist Victor Stenger characterized quantum consciousness as a "myth" and has "no scientific basis"[10].

The association of brain activity with conscious intentions was supposed to be the basis of the functional microstructure of the cerebral cortex. The nerve impulse causes the discharge of source molecules by the course of exocytosis; it was presented as a quantum mechanical model as it is based on a tunnelling process of the trigger mechanism[11].

National Health Service (NHS) – UK explains disorder of consciousness or impaired consciousness as a condition of consciousness affected by an injury to the brain.

As in case of brain injury which is the consequence of a head injury, in an accident or a fall from a height, several different states of impaired consciousness, depending on how these abilities are affected are: 1 coma – no signs of wakefulness or awareness, 2 vegetative state – a person is awake but shows no signs of awareness and 3 minimally conscious state – there is clear but minimal evidence of awareness that comes and goes.

In some cases, NHS – UK cautiously proposes, "A treatment called sensory stimulation may be used in an attempt to increase responsiveness. This involves stimulating the main senses, such as vision, hearing and smell. For example, a person's favourite song may be played to stimulate their hearing. However, it's not entirely certain how effective this treatment is."[12].

Above three events clearly suggest a possibility of regaining consciousness by the patient, at the instant of being pronounced dead or has been declared clinically dead.

These incidents also imply that an Electromagnetic Stimulation (EMS) of audio or visual memory may bring back the patient for a short period of 1 to 6 seconds.

Subsequently, only after 3 cycles of cardiac pulse with electroencephalograph signal, including all other monitoring equipments of blood pressure, pulse oximeter, capnometer or capnograph to measure the concentration of carbon dioxide (CO_2) and oxygenation are kept active, all attempts must made immediately for further resuscitation.

Defibrillation is a method to revert the heart to its normal (sinus) rhythm. This is done by delivering an electric shock through chest to the heart via a defibrillator, which must be kept on and any one of these monitors may show some sign of revival. In case of brain trauma or severe injuries, Defibrillation or an electric shock to brain is not at all recommended. It will further damage the patient's brain. With this environment, it is possible to revitalize the patient after 3 cycles of signals on the monitor, with immediate application of all resuscitation methods. It must be noted that in the beginning of revival, encephalograph may show very slow rhythm of one beat or spike per 2 seconds or even slower.

These incidents also imply that an electromagnetic Stimulation (EMS) of audio or visual memory may bring back the patient for a short period of 1 to 6 seconds. This is indeed a non invasive procedure, which is externally induced.

The EMAS in the form of music in intensive care medicine is also investigated several times mostly in therapeutic nature for imminently dying hospice patients and other studies in effects of music on the cardiovascular system and cardiovascular health, motor/autonomic stress responses including in care for the dying patient[13-19].

Conversely, EMS sound and audio visual is not yet considered for cerebral resuscitation.

It is also a well known fact that doctors and surgeons command all patients to wake up after the operation. The vocal "calling" is indeed an audio frequency applied by doctors. In case of unexpected "death" that calling stimulation is not effective.

The conscious response to audio frequency is unique to each patient, which correspond to his or her personal, long term and intimate memory. This is due to each patient's distinctive background. Except, in few cases, there will be similarity of audio stimulus to which the patient may respond, e.g. Religious Background.

Since childhood, humans create a self imposed embedded program by juxtapositioning descriptive audio induced (language) signals with visual light produced signal in the centre of the brain and these reactivate as memory.

The memory activation is dependent on a stimulus. A single external stimulus or even a self induced one becomes the cause of re-activation of latent memory. In fact, the self awareness signal converts into that inactive signal[20].

Humans normally assume that memory functions like a recording apparatus, which is a false assumption. The molecular mechanisms essential to the induction and continuance of memory are dynamic and consist of divergent phases covering time periods from seconds to a lifetime[21].

In conventional neuroscience does not convince by any definition of how perception takes place, how memory is created, what form of memory it is and where it is held?

In earlier results published, it was confirmed that the Self Awareness brainwave signals are active in a frequency of 5Hz and above and not in 0 to 4 Hz frequencies. The Self Awareness has also a "witness" function, which then allows the individual to recollect and report these recollections. In 0 to 4 Hz frequency, the individual is in Deep Sleep and never narrates that condition[22]**.**

In case of anaesthesia sedation, it appears that the anaesthetic application "freezes" large quantity of molecular composition of brain matter by bringing downs the atoms of the molecules to "Ground State".

Hence, no energetic activity can be observed; consequently, the individual is supposed to be in total suspension of consciousness, deep sleep or induced coma.

Also, contrary to above analysis, in case of general anaesthesia and anaesthetic like Propofol, recent study shows that Propofol also caused an increase in brain activity called gamma wave (25–40 Hz), which persisted throughout loss of consciousness (LOC) [23].

This raises questions about effect of anaesthesia and consciousness.

Two interpretations of Consciousness and Brain are possible, 1: the conventional Neuroscience says, brain activity is basis of consciousness and 2nd is consciousness is the basis of brain activity.

Whichever may be true, the active brain is both, electrical and conscious.

One aspect is clear that the active brain has direct relation to intimate "Memory". Hence, in case of unexpected death, the activation of consciousness and brain has to correspond with the individual's cherished memory, including memory of being physical, which I call subjective memory of Self Existence. The verbal commands by doctors in the operation room do not relate and activate the personal intimate memory, which is, normally, developed since childhood by the patient.

Therefore, apart from other monitoring equipments, it is recommended that the operation room must have electroencephalography (EEG) equipment to measure brain waves.

By the application of EMS near the patient, if the EEG signal shows 1 to 4 Hz frequency, there is still possibility of Self Awareness of the patient manifesting conscious response, which should show 5 Hz Theta wave and above. Therefore, the application of EMS must continue.

Conclusion

The methods of Electromagnetic Stimulations are not only applicable for the untimely death, but also for Comatose, vegetative state and unresponsive conscious condition. Further similar attempts should be made by the authorities in hospitals, allowing close kin of the patient to apply audio or audio-visual stimulation, by playing patient's personal available audio and audio-visual recordings of close relations, e.g. voices of parents,

grandparents, spouse, children, siblings, other close relatives, friends, ceremonies and celebrations held at home, including any recordings of musical pieces, vocal and instrumental which the patient used to listen and take pleasure, even of religious types though the patient and the related family may claim to be atheists, but such memory could have been created in child hood. These audio and audio-visual recordings must be played in the vicinity of the patient who is about to be declared "dead" or when the patient is in a non-responsive condition of Coma or vegetative state. The sound of patient's ring tone of personal land line telephones and mobile phones, including morning alarm clock tune and door bell sound etc. may be used.

This can be understood as an innovative non invasive procedure, which is externally induced and could be considered as Scientific Intervention of Natural Life sciences.

References

1. TELEGRAPH.CO.UK, 7 Mar 2014 http://www.telegraph.co.uk/sport/motorsport/formulaone/michael- schumacher/10683013/Michael-Schumacher-only-a-miracle-can-save-him.html **(2014)**

2. Daily Mail, UK: 7 March 2014, http://www.dailymail.co.uk/news/article-2575531/Doctors-tell- Michael-Schumachers-family-miracle-save-say-reports.html **(2014)**

3. Mohammad Samir Hossain and Peter Gilbert, Concepts of Death: A key to our adjustment, *Illness, Crisis and Loss*, **18(1), (2010)**

4. Olcott J.R., Allen Francis: A Death during General Anesthesia with Ethyl Chloride: *American Journal of the Medical Sciences*: **126(6)**, 1014 **(1903)**

5. Steven Shafer, Anesthesiologist and Propofol expert, at Michael Jackson trial: https://www.youtube.com/watch?v=jaaEoSozVAc; **(2011)**

6. Facco, Enrico and Christian Agrillo, Near-death-like experiences without life-threatening conditions or brain disorders: a hypothesis from a case report, Frontiers in Psychology: doi: 10.3389/fpsyg.2012.00490 **(2012)**

7. Kastenbaum Robert, (2006). "Definitions of Death".*Encyclopedia of Death and Dying,* Retrieved 27 January **(2007)**

8. Artishevsky, Alexander, *Life Death Whatever,* Createspace, ISBN HYPERLINK "http://en.wikipedia.org/wiki/Special:BookSources/978-1-4495-9420-6" 978-1-4495-9420-6 **(2010)**

9. Searle John, The Mystery of Consciousness, The New York Review of Books, 53–88 **(1997)**

10. Stenger Victor, The Myth of Quantum Consciousness, *The Humanist*, **53(3)**, 13-15 **(1992)**

11. Schwartz M., Jeffrey Henry P. Stapp and Mario Beauregard: Quantum physics in neuroscience and psychology: a neurophysical model of mind–brain interaction: Phil. Trans. R. Soc. B , **(2004)**

12. NHS–UK, Disorders of consciousness, http://www.nhs.uk/conditions/vegetative-state/Pages/Introduction.aspx **(2014)**

13. Hans-Joachim Trappe: Role of music in intensive care medicine: *Int J Crit Illn Inj Sci.*, **2(1),** 27–31 **(2012)**

14. Kemper K.J. and Danhauer S.C., Music as therapy, *South Med J*., **98**, 282–8 **(2005)**

15. Wilkins M.K. and Morre M.L., Music intervention in the intensive care unit: A complementary therapy to improve patient outcomes, *Evid Based Nurs.,* **7**, 103–4 **(2004)**

16. Trappe H.J., The effects of music on the cardiovascular system and cardiovascular health, *Heart*, **96**, 1868–71 **(2010)**

17. Yoshie M., Kudo K. and Ohtsuki T., Motor/autonomic stress responses in a competitive piano performance, *Ann NY Acad Sci*., 1169, 368–71 **(2009)**

18. Krout R.E., Music therapy with imminently dying hospice patients and their families: Facilitating release near the time of death, *Am J Hosp Palliat Care*, **20**, 129–34 **(2003)**

19. Freeman L., Caserta M., Lund D., Rossa S., Dowdy A., Partenheimer A., Music thanatology: Prescriptive harp music as palliative care for the dying patient, *Am J of Hosp Palliat Care*, **23**, 100–4 **(2006)**

20. Katkar Narendra, Neurophysics of Self Awareness and Memory, Research in Neuroscience, Scientific & Academic Publishing Co. Rosemead, CA, 91731, USA, **2(1),** 11-18 **(2013)**

21. Mohs Richard C., How Human Memory Works, 08 May 2007. HowStuffWorks.com. < http://health.howstuffworks.com/human-memory.htm>, **(2010)**

22. Katkar Narendra, Neurophysics of Self Awareness and Memory, Research in Neuroscience, Scientific & Academic Publishing Co. Rosemead, CA, 91731, USA, 2(1): 11-18, doi:10.5923/j.neuroscience.20130201.02 **(2013)**

23. Murphy M., Bruno M.A., Riedner B.A., Boveroux P., Noirhomme Q., Landsness E.C., Brichant J.F., Phillips C., Massimini M., Laureys S., Tononi G., Boly M., Propofol anesthesia and sleep: a high-density EEG study, SLEEP **34(3),** 283-291 **(2011)**