

# **Experimental research of human body activity after death**

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## **Introduction**

Today's world is characterized by the understanding of the fact that most of the problems studied by the modern civilization are somehow associated with the human – his life, health, the very essence of his existence. Western science gradually comes to a new paradigm of the world, in which the human Consciousness, structure of human energy-informational fields is a forming element of physical world. The present work is an example of a technocrat approach to the investigation of fundamental problems of Human existence - problems of Life and Death, and represents a short review of experimental research of energy-informational activity of human body after death using Kirlian effect.

## **Problem statement**

Life after death. This problem did not appear today, it is not associated with fashion or advertising campaigns. Within centuries, from the moment when HOMO became SAPIENS, this was a stirring problem for the Mankind. Nowadays ancient philosophical question about Life after Death arises from one more angle.

Is it possible to fix the process of Life after Life using methods of modern science, within the limits of Western scientific paradigm? Is it possible to record the process of separation of the two substances – immortal soul and mortal body, independently of eyewitness accounts? Does this separation occur instantaneously, or the soul leaves the body gradually? Is this process uniform for both calm passing away and sudden death? Is there any basis for the stories about night journeys of spirits and contacts with the dead?

To study these questions from the standpoint of modern scientific paradigm, objective, reproducible experimental techniques should be applied. An attempt to create such a technique and first results of its application are presented hereinafter.

Analyzing various data on the processes of activity of human body after death, we can reveal at least the three main groups of data:

- evidences received by way of direct informational excess:, revelations, experiences, and hallucinations; religious, mystical, esoteric notions on the life of soul after death [1,2];
- experimental data on physical and chemical changes, influencing human body after death [3];
- data on active processes of consciousness after death, collected and studied by non-classical scientific directions: parapsychology, transpersonal psychology, NDE, OBE, and thanatology [4,5].

First group data are subjective, irreproducible, the form of their presentation depends on culture, epoch, and race. However, basically all this data discuss some or other form of life of soul after death, i.e. when the mechanism connected with the soul stops functioning, body's life stops. Now we already know that the work of this mechanism is associated with the individuality, personality, or soul only indirectly, through consciousness. You can change a kidney, heart, put artificial extremities, or connect mechanical lungs, the individuality will remain itself. All directions and evidences agree in opinion that the soul can leave the body, exist out of it, have its own experience, see other worlds, and finally come back into the body and continue its existence among other people.

Data of the second group are purely materialistic. These are data of post-mortem study showing changes of human body after its functioning stops. This process is one-way and irreversible. When it

passes certain critical point, there is no way back to the previous state, only further destruction of organism is possible: as any other mechanism, the body can function only if its main parts, and first of all the brain, are integral and capable of working. Disturbances in the delicate structures of the main coordinator – the brain – take place in mere hours.

So, the soul, if we admit that it exists, should lead its own, independent existence after the body's death. However, another issue arises: how long does the soul remain connected with the body? Post-mortem study does not answer this question and is even not going to investigate it. Its aim is to study the processes "...of decomposition of organic body, leaving nothing but chemical components, which formed its substances..." [6]. All data obtained by medicine indicate that there are processes of constant degeneration of tissues with smooth transition from one phase, one state into the other [3].

Finally, in recent decades increasing attention has been attracted by the results of non-classic scientific research, which still require thorough check-up, verification of methods, and, the last but not the least, serious financing. But today it is impossible to simply disregard these techniques. Pertaining to the topic of Life after Death, these techniques agree in using the human being as an «instrument of research». This can be a psychic, medium, or percipient in parapsychology [2], patient in transpersonal psychology [5], or patient after the state of clinical death [4]. Having entered a special state of consciousness, achieved by way of self-tuning or outer influences, the tested person perceives and transmits information

So, what questions do we put in the course of present investigation? Main aim of experimental research of the after-death states was to search for objectively reproducible proofs of changes of some or other characteristics of the body, which might be connected with the transformations of its spiritual substance. At present there are a lot of subjective proofs of separation of spiritual substance and its material carrier. Therefore, we can logically assume that the very moment of separation should somehow influence this material carrier, should lead to the change of some of its characteristics. Moreover, there are all grounds to assume that this separation does not occur in a certain moment, this is the process, taking some time, having its particular laws and rules. Even from the medical viewpoint, today it is impossible to well-define the notion of death (except for the cases of serious mechanical body injury). And not to mention the bodies, maintained by artificial instruments during some indefinitely long time in unconscious state! Practically all religions speak about more or less long connection of the soul with the body. But what can experimentally prove such connection? What parameters of body should be investigated and what should be found in these parameters?

To our mind the very character of modern scientific data contain the answer to this question. In their essence physico-chemical processes are constant processes, causing relatively smooth change of tissue and cellular substances and, correspondingly, smooth change of parameters of these substances in time. Hence, non-monotonous, abrupt change of characteristics will be the evidence of some dramatic changes in the body. This is the general rule of experimental science: presence of non-monotonies on the curve of development of the process indicates that there are some inner transformations in the investigated subject.

Experimental research of these changes should follow the laws general for the European scientific paradigm, and, first of all, the changes should be reproducible, at least in statistical sense. In these experiments each subject of investigation is an individual and has its subjective behavior, however some regularities common for all subjects might be observed. Thus, the main condition arises: independence and objectivity of experimental data. This means that the results should not depend on the changes of environmental conditions, characteristics of equipment, state and wishes of the experimenter. As a rule, such dependencies, evident or hidden, exist in any experiment, and the task of the experimenter is to maximally take them into account and using special methods reduce their influence to minimum. An opportunity to reproduce results of the experiment in other place by an

independent group is also very important. Modern science is very careful with irreproducible experiments.

And, finally, one more question: what characteristics of processes, what parameters might find response of the material carrier to the movement of spiritual substance? To our mind these should be parameters demonstrating that such connection is present during the life, i.e. parameters some or other way correlating with the nervous or psychic processes in the human organism during its life. These processes are the indicators of highest psychic activity, reflection of feelings and emotions, manifestation of spiritual substance of human essence. In our research we did not intend to discuss all such possible processes, this is a subject of separate investigation. We distinguished a group of parameters connected with the registration of gas discharge fluorescence of tissues, widely known as «Kirlian effect» [7,8].

This method was discovered more than two centuries ago and then presented to the world in a photographic form by the married couple Kirlians from Russian city Krasnodar. It consists in the registration of glow around the subject placing it into high intensity electro-magnetic field. With proper experimental design you can make any subject glow: leaves, coins, parts of skin, and fingers. In addition, characteristics of glow of human hands depend on the individual's physiological state and, most important, on the state of individual's energetics [7,8].

Active and healthy person has bright and even glow. Disorders of energetics of such person, inflammations cause breaks and heterogeneities in the glow. The coming disease, which has not yet started manifesting on the organ level, gives signals in the form of fading, uneven, broken glow. Basing on significant statistical data, the maps, connecting some or other features of glow with a certain physiological state, were made. Combination of this technique with Su-Jok method and results of research in Russia using computer processing of images and information enabled to create effective technique of express-estimation of psychophysiological and energy state of patient. Hundreds of doctors in Europe, Russia, USA, Asia, Australia and in more than 40 countries make use of this technique [8,9,10].

Due to the experience in the application of Kirlian effect for the investigation of patients and to a large number of works on the study of physical processes, leading to the formation of gas discharge images, we were able to closely approach the study of Life after Life processes. The idea is simple: if we are able to see the distribution of energy in a living body, we should see how this energy fades away after the death, how it changes, how the transition of the living substance into inert one occurs.

### **Experimental technique**

Setting the experiment, the following principles were put as fundamental:

- data validity;
- objectivity;
- possibility to independently reproduce the results.

All the below discussed experimental data was received under the same conditions: in the same room, applying the same equipment, operating in certain stabilized mode, using the same methods. In the course of work the equipment was calibrated several times. Constant temperature of  $+64 \pm 1$  °F, depending on the ventilation and heating systems, was kept in the room.

The subject body selected for the experiment was brought to the experimental room and set in certain place with its head to the West and legs to the East. Left hand was put on the electrode in a certain position and fixed with a special device, providing stable position of the hand and fingers on the electrode during experimental session (see fig.1). The measurements demonstrated that the chosen system provided good fixation of hand and, at the same time, did not put significant pressure to it,

which could have influenced experimental results. Gas discharge characteristics of the left hand were taken: forefinger, middle, ring, and fifth finger. The position of body and hand was not determined specifically, it was convenient for setting the equipment in the room. This position was kept constant during the experiments. The fingers tested were chosen in compliance with the construction of the fixing system.

In the experimental sessions we applied photographic method for taking gas discharge characteristics. We used sheets of black-and-white photographic paper "Unibrom": normal paper, wind off from one roll. One experimental session was performed using roentgen photographic film. From 1997 experiments were performed with computerized GDV Camera complex [8].

For computer processing each picture was taken by the scanner. The received computer images were processed with the help of specially designed software, enabling to calculate the image area with previous binarization of image at a fixed brightness level.

A whole team of operators controlled each experimental session, since the parameters were taken every hour around the clock. A group on duty consisted of 2-3 people, who changed every 8-10 hours. Once an hour an operator was to come down to the experimental room, mark the photographic paper sheet (date, time), put it under the fingers and take two gas discharge pictures on one sheet, having simultaneously taken the bench mark on the same sheet. Exposed photographic paper was put into a black envelope. The equipment was designed with total automatic control. All voltage parameters were set beforehand and were kept with the accuracy better than 1%. 1-2 times a day an operator took all exposed photographic materials and developed them in large baths, containing 10 liters of newly prepared solutions. After the end of the experiment all series of photos were processed by computer. Few times a day gas discharge characteristics of fingers of operators were taken, which enabled to follow their condition. After the end of the experiment the body was sent to post-mortem study.

Thus all experimental process consisted of three quasi-independent stages:

1. Preparation stage, including installation and testing of equipment, selection and setting the subject of investigation;
2. Experiment stage, including obtaining of experimental data;
3. Processing stage, including computer processing of experimental data.

Each of these stages was performed by a particular team under general supervision of Dr.K.Korotkov.

Such organization of work provided the independence of the received data on a performer, his/her skills, training, and interest in the result. Subjective factor was practically eliminated. It is very important for experiments in the frontier science domain.

The above presented materials demonstrate that the experimental technique served for obtaining maximally reliable and objective data. All research stages were quasi-independent, the equipment was stabilized and metrologically tested, several operators participated in the processing of information, each of them performed only a part of work. Experimental technique was highly automated and reduced to a set of certain procedures, which enabled to fulfil another requirement: opportunity to independently reproduce the results.

### **Main results of research**

Tens of experimental sessions were carried out in the period 1995-2000, each lasted 3-5 days. Both men and women aged 19-70 were among the tested dead.

The very first experiments showed that certain intensity of gas discharge glow was typical of the dead bodies. It changed according to some laws, however there was no principal difference between the gas discharge glow of the live and the dead people. It was found that different types of fluorescence were observed, and in the course of time a transition from one type to the other occurred. General

intensity of glow decreased, however not to zero, but to a certain stationary value. Analysis of experimental curves received enabled to make some interesting conclusions. First of all it was found that according to the form of gas discharge curves, all obtained data splinted into three groups (fig.2):

- I. Curves with relatively small amplitude of oscillations;
- II. Curves with relatively small amplitude of oscillations having one pronounced peak;
- III. Curves with high oscillations, lasting for a long time.

When we fully analyzed these data, an interesting peculiarity was found: each of these groups was characterized by a certain nature of death:

Group I: "tranquil" death of natural reasons, stipulated by the state of organism, mainly in the old age.

Group II: "sudden", "abrupt" death as a result of traffic accident with craniocerebral injury.

Group III: "unexpected" death as a result of conditions, which could be avoided at more favorable concourse of circumstances: suicide, wrong first aid, lungs thrombus, etc.

It is worth stressing that this division is quite conditional, we have too little data to claim it to be final. It is quite possible that in the future the character of classification will change. It is obvious that the moment of transition to the final threshold is determined by a large amount of factors, often chance: Was the medicine at hand? Was medical aid in time? What kind of stresses did the individual have? and so on. Moreover, at the given stage there is not enough data to make final classification, therefore we should consider these groups as preliminary ones. However, even such sort of preliminary analysis gives an opportunity to interpret the received results in a new form, disclose new sides and, thus, prepare the basis for further experiments.

Let us determine main characteristics of curves for each group.

Group I. Two stages can be distinguished on the curve: stage with pronounced curve oscillations relative to the medium level (standard deviation  $D \leq 150$ ), duration of this stage is 16-55 hours; stage with insignificant oscillations ( $D \leq 60$ ) lasting to the end of data recording.

Group II. Pronounced peak in one case falling at the first 8 hours after death, in the other - at the end of first day, after which the intensity of glow abruptly decreases and approximately in two days after death oscillations become insignificant.

Group III. High amplitude and duration of oscillations is observed in this group as compared to the other groups ( $D > 200$ ), as well as a number of pronounced peculiarities typical of the other cases in a less pronounced form (fig.3):

- General decrease of amplitude from the beginning to the end of experiment;
- Intensity peaks at nights, starting from 9 p.m., having different degree of intensity and duration;
- Local drop of intensity of fluorescence in the end of first day and abrupt drop in the end of second day.

The distinguished groups also differed in the general character of gas discharge glow, which was manifested in different spatial types of images. However, in many cases the glow had oppressed, defective character, as a rule typical of live people with quite disordered energetics, for example, cancer patients. Many images were characterized by significant outbursts of glow, mostly pronounced right after death and gradually decreasing with time.

Let us mark that the gas discharge glow might be obtained from any subject, both live and inanimate. The difference lies in the fact that biological subjects are distinguished by constant variability, and the characteristics of their gas discharge glow fluctuate with the period of 2-5 hours (keeping main features), while the glow of inanimate subjects remains constant [8].

### **What is the meaning of this?**

The data presented gives rise to a lot of questions. What is the meaning of all this? What factors might be associated with the fixed changes? What conclusions might be drawn? And, naturally, the first question to be answered: how conclusive are the data received? Is not all this connected with mere experimental errors or registration of trivial physiological processes? Let us use our imagination and think about the received data, applying all occurring interpretations, objections, and arguments.

Sensible pragmatic materialist raises objection N 1: "All this is nonsense and waste of time and money. In two days after death the body cannot have any activity except for the processes of decomposition. The oscillations found are mere fluctuations having no meaning, they are determined by the processes of developing photographic materials and processing errors."

This argument has the easiest answer. Perhaps, further critics will find more than one drawback in the experimental technique, but on the first stage, for obtaining first series of results, this technique is quite satisfactory. This is proved by, at least, general character of the received results, for example, general drop of fluorescence from the beginning of the experiment to its end, however not equal for all cases, but depending on the situation of subject. If the reason were the simple physical factors, say, the exhaustion of developer, this drop would have had more or less smooth envelope, same for all cases. And in a number of cases we even observed the increase of characteristics in the end! What is more, together with the photographing of fingers's glow, pictures of the benchmark, a test tube with physiological solution, were taken. The graph of glow of this benchmark was the most distinct indication of the method's possible error. In all experiments the range of oscillations of the benchmark curve was considerably smaller than the range of oscillations for the most "tranquil" case ( $D < 10$ ). Particularly, the rises of glow at night were observed, and at the same time, the amplitude of benchmark signal did not change. Thorough analysis of meteorological data and electromagnetic parameters of atmosphere demonstrated that there were no visible correlation of these factors with the experimental data. Thus, we see no grounds to doubt in the reliability of the given results.

Having heard out the explanation, our materialistic critic might put forward the following argument: "All the given data do not raise doubts from the viewpoint of setting the experiment, but they fix not more than residual physiological activity of muscular tissues, transforming in the process of decomposition. Processes individual for every sample, depending on the age of epidermis and environmental conditions, take place in the tissue. There are no grounds to assume some correlation between the received data and the personality of the former owner of these tissues."

To our mind, main answer to this argument is the very character of the data obtained and, first of all, division of it into three groups, some or other way correlating with the character and cause of death. In addition, peculiarities found for the third group are of significant interest.

It is described in forensic medicine literature [3] that electrophysiological characteristics, measured after death, abruptly change in the first hours and then either remain constant or change smoothly in the form of smooth curves. This is a basis for forensic extrapolation of the time from the moment of death. Research of gas discharge fluorescence of meat products (with the aim to reveal the quality) carried out by us in 1984-85 demonstrated monotonous degradation of glow with time storing meat in the room; only change of brightness and size of crown was measured, no anomalous outbursts or spots were found. From the other hand, it is known from physiology that oscillatory processes with periodic rises and falls within a few hours are characteristic of systems with active life [11]. This type of changes was found in studying acupuncture points activity after death [12].

The easiest way out is to announce that the received curves represent fixation of trivial biological processes and disregard them on this basis, as meteors were disregarded in XVIII century, hypnosis in XIX, and telepathy in XX. As put by S.Grof [5], "The ideology, which has long ago become obsolete, is still considered to be scientific in many other spheres – this damages further progress. Observations

and facts, contradicting mechanistic model of the whole Universe, are most often rejected or hushed up, and research projects, not pertaining to the dominating paradigm, have no financing. Most vivid examples: psychology, alternative approaches to medicine, psychedelic research, tanatology, and some spheres of field antropologic investigations."

### **Discussion**

So, how the received data can be interpreted? To our mind, most natural would be to associate this data with the concept of existence of the two connected, but quasi-independent substances of human being: physical body and energy-informational structure. We deliberately do not use words "soul" or "spirit", since certain notions having religious and esoteric tinge relate to these terms. We speak about energy-informational structure as objective space-field structure, connected with the human body, but existing independently of it, including certain time after death. This structure appears after birth and changes in the process of "morphogenetic sinergization". Similar notions have been developed [13,14] on the basis of ideas of sinergetics, theory of information, and theory of big systems.

### **Conclusion**

Apart from the discussed topic, a whole series of interesting problems arises: investigation of the very moment of transition from the live to the dead state in resuscitation departments, reveal of peculiarities and characteristics of this transition. Such data can give new information for experts in resuscitation: they will show the threshold behind which no back transition - return is possible. One more problem - influence of various diseases, traumas, spiritual health, and dying state on the process of postmortem transformation. And this is only a small part of questions which take shape already now and which will naturally rise in the course of further work.

Comprehension and analysis of results received introduce not only biological or practical questions, but also highly scientific, philosophical concepts. Many of these questions, as well as our "non-standard" impressions – contacts with the "substances" of the dead, outflow of energy as a result of experiments, connection of images with chakras, etc. are discussed in the book of the author "Light after Life", published in St. Petersburg in 1995 and in an improved variant in New York in 1998.

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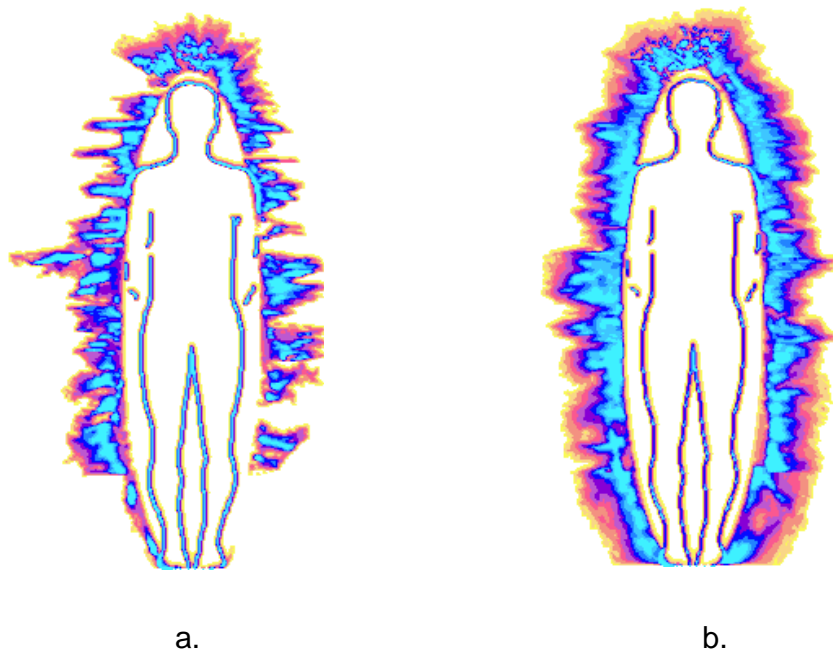
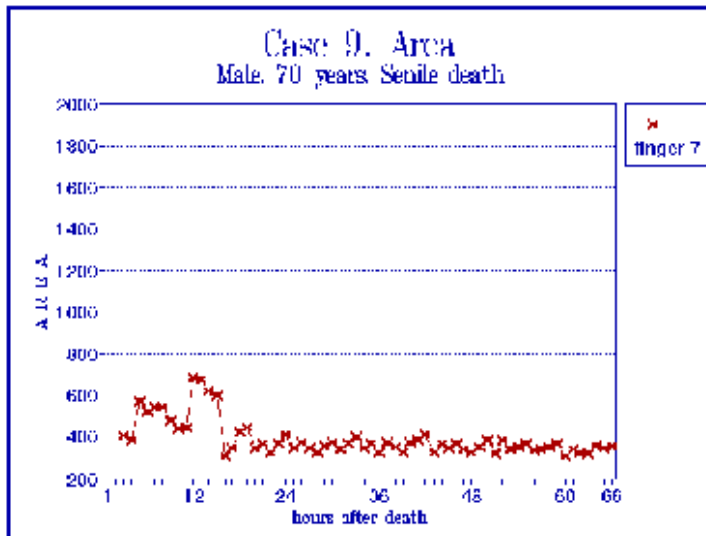


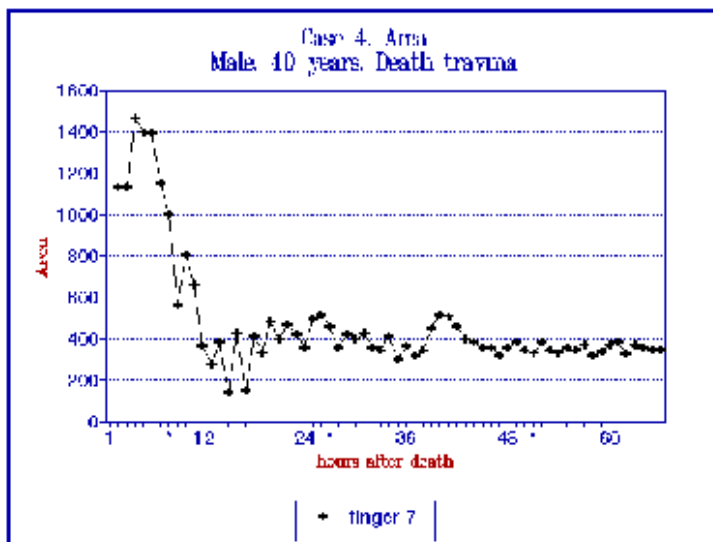
Fig.1. Computerized GDV Auras of a person before (a) and after (b) the course of acupuncture.



1.



2.



3.

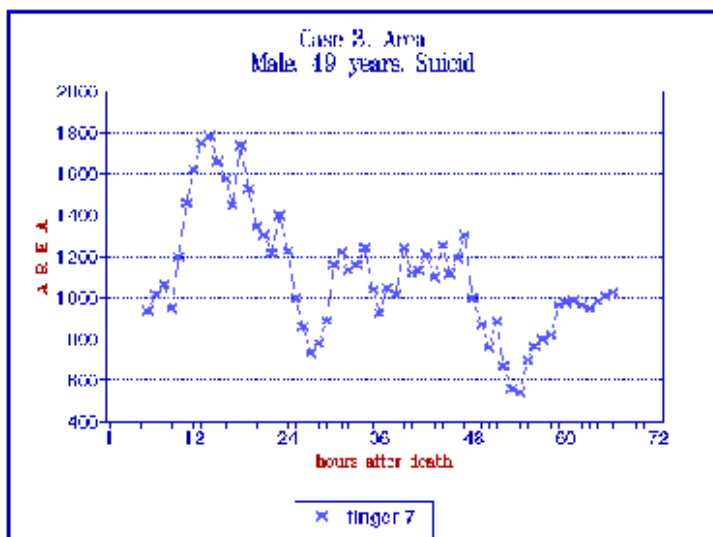


Fig.2. Time dependence of evoked bioelectrography signals intensity (Kirlian effect) for different types of death.

1 - calm death; 2 - traffic accident; 3 - unnatural death.

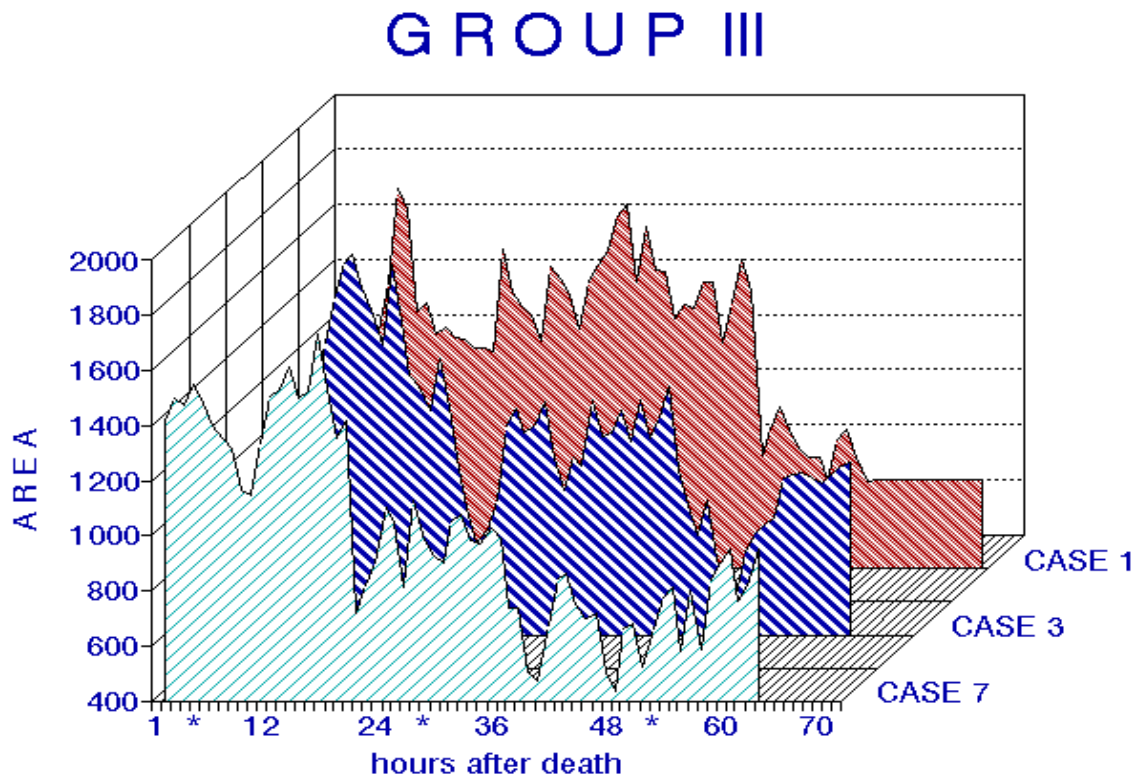


Fig.3. Time dependence of evoked Bioelectrography signals intensity (Kirlian effect) for different cases of the 3<sup>rd</sup> group.