How this sad situation could be explained?

The fact that critical care medicine (since 1994) and lately pain management have been separated from anesthesia and ceased to be an integral part of this profession significantly contributed to the actual shortage of manpower.

In the eyes of the public opinion and Israeli medical community Anesthesiology remains a peripheral specialty , since no serious effort to change the public mind was done ever. The "immigrant profession "label prevents young physicians to seriously consider anesthesia as a real alternative to be selected for a future career.

A recent case in an Israeli court, where a senior anesthesiologist was sent to eight years in prison for a death produced by a halothane overdose shattered the sensitive balance between the advantages and drawbacks of this profession and increased the young physician reluctance to approach anesthesia as his/her future career.

The future

The short- and long-term implications of this situation are clear.

A decrease in the availability of elective surgical facilities is already a sad reality.

Less anesthesiologist will be soon free to take part to the patient care in the extra-OR domains (sedation, labor room, pain management, etc).

There will be a delay in retirement of old specialists, which means that old physicians will go on and work hard, 24 hours a day, 7 days a week, in spite of their advanced age.

More professionals would leave the country looking for better places to work and live.

But the most serious danger is the Israeli medical system intention to replace physicians with nurses in order to cover the increasing demand for anesthesia services. Plans in this direction have been already published and their implementation is just a question of time.

It is obvious for everyone that in the future we will not be able to select the best candidates for anesthesia residency track, which means strengthening the old adage, "fist come, first serve"!

Any solutions ?

A glance into the literature will uncover a long list of measures recommended in order to correct the current situation, which once again is not peculiar for Israel only: a higher income, better work conditions, expansion of the anesthesiologist's role outside the OR.

Some proposed including non-medical personnel in anesthesia, by copying the American system. We consider this idea a negative incentive for a young physician in his/her efforts to find a proper field for training.

One thing is sure: a large and sustained public campaign is more than necessary.

The public opinion has to get a chance to know more about our profession, about the simple fact that while the surgeon is responsible only for the operation success the anesthesiologist is in charge with the patient life!

Improvement is still far away.

But things are to be done and quickly, because "if we will not make the future, the future will make us".

ORGAN DONATION AND THE ANESTHESIOLOGIST

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Introduction

Apparently, there this no need for a job description of the anesthesiologist in the domain of organ donation. Obviously, he/she is a member of the medical team which acts inside but also outside the operating room (OR) during all stages of organ donation.

A short enumeration of the anesthesiologist's activities in this field will include:

- diagnosis of brain death in ICU
- preservation of cardiac activity after brain death till organ recovery (harvesting)
- preservation of heart and kidney functionality after the diagnosis of cardiac arrest (in the case of a non-heart-beating donation- NHBD)
- participation to the discussions related to a possible organ donation with the deceased family
- preserving blood circulation just before organ recovery
- performing anesthesia for organ transplantation

Anesthesia for organ transplantation is not part of this presentation, which deals solely with the anesthesiologist role in organ donation.

A case in the Intensive Care Unit

Let's imagine a patient who is brought into the ICU in a very serious condition. He is unconscious, intubated and ventilated and needs vasopressors for keeping his cardiac function into acceptable range. A fist supposition would be that the patient condition is irreversible and indeed, his condition progressively deteriorates.

From the point of vu of possible organ donation, what could be the scenario?

The patient can become brain death, which is death of entire organism.

He might develop a sudden cardiac arrest impossible to resuscitate, or in spite of the vigorous treatment, he stays comatose (Glasgow Coma Scale 3) and is soon expected to have a cardiac arrest. In all three cases, the patient-now dead- can become a candidate for organ donation, but from this very point the scenarios would go in completely different directions for each of the above possibilities. Beside, each of the above developments is accompanied by too many logistic and especially ethical difficulties.

In the first scenario, the patient would become brain dead, a special committee would confirm the diagnosis (irreversible and very extensive brain damage, no cardiovascular or respiratory activity without assistance and cessation of cardiac activities in the following hours or days) and family would be asked to accept organ donation. In case of a positive answer, the already dead body would be brought to the OR, the anesthesiologist would try and preserve blood circulation till the last organ is harvested.

But one cannot forget the complexity of the potential brain-dead donor care in order to preserve the vitality of the organs to be recovered. This would be the task of the anesthesiologist/intensivist and the importance of the success of this activity cannot be overemphasized.

In case of refuse, all supportive treatments must be withdrawn but this would sometimes be a very complicate ethical and logistic decision, since in many cases family would see it as a hasty decision, taken just because of its refusal to donate.

Both the second and the third scenarios deal with death with cardiac arrest and possible organ donation after cessation of cardiac activity. Actually the history of organ transplantation started with organ donation after cardiac arrest, but this encountered major difficulties related to the preservation of the functionality of those organs to be transplanted to future recipients. The concept of brain death in the late 60s of the last century replaced the need for NHBD, but soon the gap between organ availability and request obliged the medical community to go back to the NHBD source of organs and try to solve the technical problems of organ viability after cardiac arrest.

As per today, in the most developed countries, kidney donation coming from a non heart beating donor might represent between 5 and 25% of all kidneys harvested for transplantation.

Our **second scenario** would deal with what the Maastricht classification calls uncontrolled cardiac arrest, defined as unanticipated, sudden and irreversible (not responding to the CPR efforts) cessation of cardiac function. In this very case the time limit factor becomes a most important obstacle in organ procurement. Some procedures (like femoral cannulation, infusing cold fluids and administration of heparin) are to be started as soon as possible. The problem is that nothing can be done in the absence of the family consent and the family would not be always near the patient at the moment of cardiac arrest. Starting those procedures without consent would be easily considered battery, illegal, immoral and completely forbidden. But beside this difficulty there is also a question related to the irreversibility of cardiac arrest: how long after the interruption of the unsuccessful CPR efforts could cardiac arrest be considered irreversible?! Some would say 2 minutes, but the famous 1981 US President Committee set a 10-minute wait in order to consider the patient definitely dead. Also some studies described the phenomenon of "auto-resuscitation" and other publications mentioned a possibility of restoration of cardiac functions even 15 minutes after cessation of CPR maneuvers.

So, this second scenario, of the uncontrolled cardiac arrest might encounter significant obstacles in the way to reach the stage of organ recovery for further transplantation.

Also our **third scenario** is accompanied by ethical problems. Let's first describe a clinical situation: a patient is considered terminally ill and he himself or the family decides to ask for withdrawing all vital functions support, before death has occurred. They also might decide that after cessation of cardiac activity, organ recovery/harvesting would be permitted for further transplantation. In this case the patient is taken to the OR, anesthetized and organ recovery performed.

The anesthesiologist job would be in this case anesthetizing the patient, ventilating him and assisting all vital functions till the moment of organ harvesting ends. The meaning of all these activities might be wrongly understood that the patient is not dead, yet, and anesthetics are given to kill him! This could be a real ethical issue and many of our colleagues might refuse to take this job.

Some experts in the field of organ transplantation recommended that the patient care would be done not by an anesthesiologist, but by the same physician who took care of the patient before bringing him to the OR. The problem is that in many countries and hospitals the physician in charge with the patient in the ICU is the same one who is supposed to perform the anesthesia job for organ harvesting! One also cannot forget that in some countries there is no legislation permitting support withdrawal , which makes the situation even more difficult.

The pertinent literature speaks about the delicate balance between nonmalefience ("do not harm") and beneficence ("do good"), and this is a real ethical problem for each of us, even if the final aim of performing anesthesia is to save the lives of more than one patient.

Conclusions

The aim of this presentation was to bring to attention a variety of logistic and ethical aspects of our activity as anesthesiologists in the domain of organ donation.

It is obvious that the anesthesiologist's role in organ donation is a multi-step job, which includes knowledge, experience, skills and common sense. A mistake, a wrong decision , a hesitation, could jeopardize life, not of our patient, but of many others, who are waiting for an organ to be transplanted.

This is the reason why every single case is to be judged separately, by using strict protocols who might solve the multitude of ethical problems.

In this regard, the anesthesiologist is a front runner and his/her decision is crucial for entire system of organ donation.

UPDATE IN THE EUROPEAN ANESTHESIA EDUCATION

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Introduction

In spite of the fact that each physician, all over the world, graduated a six or seven- year medical school, there is a permanent need for continuous learning, since medicine is a profession in permanent progress and each of us must assure adequate quality of patient care and also public accountability.

In a bilingual book (English and Hebrew) published in 1992 ("Education and teaching in Anesthesiology in Israel) I wrote that " society expects to see a specialist operating in the framework of modern, up to date medicine, and who is aware of the many innovations in every field".

Self learning or participation to scientific conventions and refresher courses proved to be valuable tools, but neither one can offer a real method for creating real up to date knowledge and skills.

Recertification, as it is practiced nowadays in the USA, seems to be the closest framework to what the medical system is supposed to offer regarding the patient safety and modern care. But the question is how could we keep ourselves in good shape between two recertification examinations, which is held once every 10 years?

Teaching means not only hard working gifted students but also, or mainly, good teachers, coaches and guides, who would be able to teach, to inspire and (why not?) to serve as role-models for their younger colleagues.

These were the thoughts on which the 15-year Beer Sheva educational project was started in the early 90s. It was supposed to help closing the gap between the modern medicine practiced in the western hemisphere of the world and that part of Europe which was for almost half a century under the communist regime. The Beer Sheva project, entirely financed by the WFSA, exposed young Eastern Europe anesthesiologists to the modern aspect of our profession, by offering a direct view to daily activities of a busy up to date Israeli hospital. More than 160 young physicians took part to the project, 36 of them (22%) coming from the Republic of Moldova.

The project did not include a follow up system in order to know what happened to each of those anesthesiologists who spent between one month and one year at Soroka Medical Center in Beer Sheva, but we do know that some of them became directors of anesthesia departments, chiefs of professional units, organizers of congresses and conventions. We also know that some 20-25% of them found the way to Western Europe and they are currently employed by a foreign department.

We soon realized that in spite of the efforts and financial resources we could not completely close the gap between the two kinds of medicine practiced on both sides of the former Iron Curtain.

The idea was to find a new way to implement modern medicine, techniques, organization and also mentality among the new generation of anesthesiologists in Europe, not only in former communist countries but also in some other regions of the continent.

The permanent contact with our profession all over Europe showed very clearly that one of the feeble points of educating the new generation of specialists was the use of old method to teach new things. Once the needs for basic equipment and drugs have been solved and the access to up to date information ceased to be a problem, we felt that one has to take care of the system of teaching, the way the practical information is transferred and skills are taught.

Method

These thoughts created a new project, of "teaching the taecher", an international institution (The International School for Instructors in Anesthesiology-ISIA) with the aim of preparing in a restricted number of countries, a group of instructors, who would be exposed to the modern ways of teaching theoretic and practical subjects, as well as main aspects of organizing our profession.

The core of the established curriculum was to teach the new way of lecturing clinical subjects, based on description of real cases, but also including the evidence base data and basic sciences knowledge. Soon the curriculum was enriched by adding a long series of subjects related to educational skills and anesthesia organization items.

The first ISIA course took place during the years of 2006-2007 , in Bratislava and Belgrade, three classes, each of one full week of presentations, skills teaching and discussions regarding various aspects of our profession.