THE CONDITIONING AND DANGER IN THE TREATMENT OF PATIENTS WITH TERMINAL INJURIES

LESZEK BRONGEL, PIOTR BUDZYŃSKI

Department of Emergency Medicine and Multiple Injuries, 2nd Chair of General Surgery, Collegium Medicum Jagiellonian University in Cracow
Kierownik: dr hab. L. Brongel

David B. Hoyt, chair of the American Association for the Surgery of Trauma, compared the origins, development and results of trauma surgery to the origins, development and results of the existence of rock’n’roll music in the world (1). Just as rock’n’roll music has its roots in classic kinds of music, so surgery of trauma has its roots in classic fields of surgery. Just like rock music has appropriated considerable parts of music and has remodeled the awareness of the young generation, so traumatology has changed the awareness of general surgeons. These were people who did not mind working at night; they could and wanted to operate on anyone, in any condition, with whatever they had within their reach, determined to solve every difficulty and not worry about money. Today, when more and more frequently patients are treated non-invasively after their injury, general surgeons miss surgery. More and more frequently they operate under emergency conditions in general surgery, and what is more, in America no one minds them (2, 3). There is a similar association on the European continent, the European Association of Trauma and Emergency Surgery, which promotes a close relationship between both fields of surgery, especially now when other highly-specialized surgical branches become independent, making the notion of general surgery abstract.

Countries such as the USA or Germany, where the chain of centers treating the results of injuries was developed many years ago, were successful in preparing management rules, frameworks for the organization of treatment, and various procedures of treatment. The death rate has dropped there and the quality of life of accident victims has improved. In our country, traumatology is on the margin of many different branches of medicine. Distinguished professors do not notice changes and apply their own standards to cases where those standards no longer suit. Consent is limited to dressing wounds and putting minor fractures into plaster, but nothing more. The rest is to be attended by specialists, and a patient is to spend hours in an ambulance going from one centre to another. The situation is a result of understanding the surgery of trauma as a simple “repair” of the mechanical damages which are the consequences of an accident. However, such thinking should have been eradicated a long time ago for three reasons.

First of all, more advanced operative techniques allow for the performance of surgeries once deemed impossible and the treatment of the injuries once thought irremediable; it also allows for the choice of an optimal treatment method for any given case. If bones may be joined in two different ways, treatment becomes more frequently a matter of the fracture itself (which includes the circumstances in which it occurred, other injuries, the patient’s state of health, and unfortunately the means of the hospital or the patient possesses), and not a whim, the skills of the surgeon, or changing opinions on the effectiveness of various methods of oste-
osynthesis. Staples make it possible to sew the intestine in such places where it would be impossible to work with a needle and thread; they also make the procedure easier and speed up the work of the medical team. A laborious ligation haemostasis was replaced by coagulation, and instead of open “diagnostic” operations, more frequently endoscopy, laparoscopy, or even thoracoscopy may be performed. In addition, an intravascular intervention technique may be applied; this is already a great success in cardiology and vascular surgery, and frequently saves the lives of accident victims.

Secondly, the success of the treatment is not only determined by the manual dexterity of the surgeon (as it is known, Lister amputated the leg and three fingers of a patient in three minutes), but above all, by choosing the appropriate procedure and right moment for the operation. It turns out that it is not always in the patient’s best interest to perform an operation upon his or her admission to hospital (life-saving splenectomy solves the problem of internal bleeding and is it always necessary to perform it straight away) or delay the operation as long as it is possible (fixation of a fracture in accordance with “the art” is frequently impossible to be done until many days after the injury). Operation in a given case may not be necessary, though in others it would be the most appropriate solution.

Thirdly, due to better accessibility and progress in modern diagnostic imaging, quite a number of patients may be treated non-invasively, though not so long ago operation would be necessary. A classic example is the above-mentioned disappearance of diagnostic laparotomy making optional indications for laparotomy in penetrating abdominal injuries, even gunshot injuries, the possibility of monitoring the dynamics of changes in intracranial injuries or functional treatment of some fractures which has its ups and downs, but still is present in life and literature. On the other hand, life-saving treatment is introduced which is performed not only outside the operating theatre (emergency thoracotomy) but also against the art of “classical” surgery retained by tradition and current principles (damage control).

Timing, i.e. a sequence of the particular interventions and time of their performance, nowadays plays a crucial role in the treatment of patients with injuries. It is strictly connected with the processes taking place in the body after injury and should support an appropriate moment when favourable processes are present, while preventing those which lead to irreversible changes. Therefore, learning about the pathophysiology of post-traumatic disease is the key to success which will occur once we understand the peculiarity of this state. Better does not always mean faster and rarely means later.

The older surgeons remember weeks of helplessness spent waiting for improvement in their patients who suffered from composite, improperly dressed fractures and who developed further complications of long-lasting pain and immobility, as well as unavoidable starvation. It seemed that the slogan, PATIENT IN TOO SERIOUS CONDITION TO BE OPERATED (4), was a turning point, and almost everyone was enthusiastic about it. Today, even if we would possess all the knowledge which was included in the article discussed above, we limit our activity or at least delay it. We learned the other slogan, PATIENT WELL-OPERATED, BUT DEAD. For years, the recommendation for respirator use in those patients has been changing, parenteral nutrition has been discovered and cursed and then discovered again, and the attitude towards antibiotic therapy, immunosuppressive and immunopressive treatment was different. The operating methods have changed as well; a classic example of the rising and falling wave of enthusiasm is the intramedullary nailing of fractures in patients with multiple injuries.

Being aware of the goals that motivate the trauma surgeon is another issue. Not that long ago the main goal was to save lives, leaving the rest to their own course. Today, it is not only preservation of life, but also preservation of its quality as measured by the degree of adaptation achieved to perform social and survival roles. In traumatology, full recovery is less possible than in any other field of surgery. However, more frequently than anywhere else the aproti consent for certain limitations brings better effects than heroic struggle for the whole, which is condemned to failure from the start.

Instead of the procedures and operational priority list sets, new questions arise: in which cases should various lifesaving techniques be applied, and when and in what scope would a patient with serious, multiple or multiorgan injuries be operated upon in order to elimina-
The conditioning and danger in the treatment of patients with terminal injuries

to the direct threat of death, ensure the normal flow of blood and oxygenation in tissues, and limit the defense inflammatory response to the necessary minimum, as well as avoid “second hit injury” and avoid the negligence of invasive treatment which could condemn the patient to long-lasting immobility and further complications.

Almost everyone will agree that in cases of penetrating wounds in the precordial area and symptoms of internal bleeding, an immediate thoracotomy is recommended. But “immediate” for some means “at the location of the accident”, while for others it means “on arrival to hospital” or one of many other possibilities. Is suspicion of aortic damage a recommendation for immediate thoracotomy, or may it be performed after the necessary diagnostics or even later? Should a patient with internal bleeding to the abdominal cavity have a laparotomy performed, or should one first make an attempt to control bleeding by applying less invasive methods after discovering the source of bleeding? Are a staple C, external stabilizer and percutaneously inserted screw stabilizing sacroiliac joint damage control in patients with extensive pelvic fracture? Is an intramedullary nail inserted to the fractured femur still damage control? I believe that we will not receive the answers for those questions soon, and even if we do, new questions will arise.

One of the ways which could solve those or similar problems is a national registry of serious injuries, which, based on hundreds and not just a few cases, would allow for the optimization of therapeutic decisions. However, it should only be based on trauma centers, where the majority of the most seriously injured accident victims will be treated. These are also the conditions for creating our own optimal standard procedures which cannot be automatically transplanted from other countries. This is all ahead of us; the question is whether we will see such solutions.

REFERENCES


Received: 9.05.2007 r.
Adress correspondence: 31-501 Kraków, ul. Kopernika 21