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Research Article

Emergency surgery and Limitation of therapeutic effort in relation to neurologic deterioration in elderly patients – a survey of European surgeons

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Abstract

Background. In emergency surgery, a very heterogeneous approach is required in the decision making process, especially when considering the patient's postoperative quality of life as well as medical, ethical, and legal factors. In some cases, the presence of an Advance Directive (AD) form may potentially help resolve the surgeon's dilemma.

Objectives. The primary objective of this survey was to investigate the opinions of surgeons across a representative cross-section of European countries regarding the decision making process using a specific case scenario so as to identify similarities and differences in practice. A secondary objective was to identify the possibility of establishing a more uniform approach and best practice.

Method. A survey was conducted of surgeons from a range of European countries. Questionnaires were designed to obtain an overview of decision making in relation to the Limitation of Therapeutic Effort (LTE) using a specific case study and the level of awareness and practical use of ADs. Surveys were distributed via email to the members of the ESTES (European Society for Trauma and Emergency Surgery) and AEC (Association of Spanish surgeons), with voluntary, anonymous participation.

Conclusions. Clear and additional support in the form of legal and ethical guidance with clinical protocols for surgical practice in such case scenarios is necessary. Wider use of ADs, together with education about their role and support for patients and relatives, would benefit the type of patient described in our scenario. A multidisciplinary team should play a more active role in decision making in order to avoid surgical procedures that are potentially futile. The concepts of LTE and Quality of life need a broader understanding among surgeons as well as more consistent application.

Keywords: Limitation of therapeutic effort, advance directive, geriatric emergency surgery, irreversible neurological deterioration

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Introduction

Limitation of Therapeutic Effort (LTE) has become an acceptable option (and legally acknowledged) within clinical practice, especially where critical care is required. LTE refers to either withholding or withdrawing life sustaining treatment, with each procedure carrying different implications (1). Undeniably, the practice evokes controversy from an ethical and resource management point of view. Furthermore, given the advances in medical practice and the increased capacity to 'prolong' life, the surgeon may be faced with a conflict between prolonging life and consideration for the patient's wishes and dignity (2).

In surgical practice, two opposing approaches are identifiable: the more interventionist approach (trying to save life and resolve exclusively the issue of the illness, taking into account the surgical indication) and the more conservative approach (a reluctance to use the operative option due to the surgical risk, especially when considering the patient's post-operative quality of life). Tools for Surgical Risk assessment such as P-POSSUM offer a pre-operative prediction for mortality and morbidity based on a patient's physiological status and the operative severity for the condition (3). Such assessments help guide the surgeon in deciding whether the patient is "fit" or "not fit" for surgery.

However such tools do not include the patient's neurological status or any concept/criteria in relation to quality of life in the risk calculation. In addition, the decision making process is strongly influenced by the patient's wishes and/or those of relatives, when the patient is unable to express them directly, for example in cases of severe, irreversible neurological deterioration.

Thus, the decision making process involves a number of factors: medical, ethical and legal, yet must also be guided by the fundamental concept of medicine: "Primum non nocere" (first do no harm). Is it not harmful a carry out a futile surgical operation or to prolong life just because it is possible?

An Advance Directive (AD)—also known as a living will, personal directive, advance decision, medical directive, or advance statement—is a document in which individuals specify what actions they want carried out for their health in the event that they are no longer able to make decisions for themselves at some future point in time. The AD may also specify a designated agent to make health care decisions in case of temporary or permanent mental incapacity. It may serve as a legal document or may take the status of being legally 'persuasive'. The presence of an 'Advance Directive' or its equivalent from the patient is a potential means of resolving the surgeon's dilemma. However, such directives may still be contrary to the surgeon's professional judgment; in many instances, patients have not prepared an AD.

Objectives

The primary objective of this survey was to investigate the opinions of surgeons across a representative cross-section of European countries, with regard to: practice and the decision making issues faced when presented with a 'typical' case scenario; identifying similarities and differences in practice, establishing the possible rationale for these – medical, legal and/or ethical. A secondary objective was to recommend a more uniform approach and best practice.

Materials and methods

A survey was conducted of surgeons from a range of European countries. Two separate questionnaires were designed (1) to obtain an overview of decision making in relation to LTE (using a specific case study), and (2) to assess the level of awareness and practical use of ADs. A

secondary objective was to identify any similarities and/or differences in approaches.

Questionnaire items were given in the context of a case scenario: a patient of advanced age (85+), with severe, chronic, and irreversible cognitive impairment who required emergency surgery for acute abdominal issues. The questionnaires were created via Google Drive Forms and distributed via email to the members of: 1) AEC (Association of Spanish surgeons), and 2) ESTES (European Society for Trauma and Emergency Surgery) between July 2015 - June 2016 and June – October 2016, with voluntary and anonymous participation. See Appendices 1 and 2 for copies of the questionnaires. Both questionnaires were reviewed and approved by the Ethical Committees of AEC and ESTES before distribution.

Results

A total of 272 completed questionnaires were returned from surgeons in 28 countries; 189 for the first questionnaire (Q1) and 83 from the second (Q2). Respondent's experience as a practitioner ranged from 1 to 52 years, with the average being 16 years. Almost 70 percent (69.8%) of responses to Q1 were from Spanish surgeons.

Only 38.6% of respondents from Q1 thought ADs were part of the legal system in their country, compared to 73.5% in Q2. However, the experience of using them was similar, but limited, at 30.2% and 21.7% respectively.

In the absence of an AD, only 20% of surgeons from Q1 were willing to operate on the patient, whilst the percentage was three times higher for Q2 surgeons at 63.9%. The three main reasons for the decision of whether or not to operate were categorized as ethical, professional and/or as a result of relatives' wishes. The results of relatives' wishes played a significant role for surgeons in Q1, with 63.5% saying it affected their decision whereas only 39.7% answering Q2 indicated so.

An additional question was asked of surgeons in Q2 in relation to the role of MDT (multidisciplinary team). The majority thought that the decision making process in the given case scenario should be a joint one.

Finally surgeons were asked as to whether they felt restricted in their current working practice when making a decision of this type about a patient. Respondents in Q2 felt greater restriction (55.4%) than those in Q1 (29.1%). However both groups largely agreed that changes were needed in order to clarify the process (73.5% and 77.1% respectively).

When asked what changes they thought necessary, the most common response was for clearer guidelines, protocols, or directives at either national or hospital level, to support the surgeon and reduce the need for subjective judgment. In addition, many respondents thought that awareness regarding ADs needed to be raised, with both health care professionals and the general public educated about the importance of such directives.

Discussion

The involvement of two official professional institutions (ACE and ESTES) and a wide cross-section of surgeons' opinion from a range of European countries represent strengths of this study. Furthermore, the number and diversity of respondents across countries producing fully completed questionnaires as well as the relevance of the theme in the current context of the aging population within Europe help identify the need for developing future guidelines or consensus in this field.

When comparing the first and the second versions of the survey, there were a higher proportion of responses

from Spanish surgeons in the former. This might be explained by the effective collaboration and distribution of the first questionnaire through AEC, due to the first author's residing and working in Spain at that time. This potential bias could be seen as a limitation of the study, although the responses received were still valuable in the overall context of the survey.

The second questionnaire was implemented to address this imbalance of country-of-origin of respondents and gave the authors the opportunity to insert a question regarding the use of MDT. Although these minor changes may have contributed to different responses to several questions across the two questionnaires, we believe it was more likely due to the overrepresentation of Spanish surgeons responding to Q1. The results do, however, suggest a role for cultural, political, and religious influences on the decision making process.

The interpretation of the results is also limited by a defined case scenario about which surgeons were asked to respond. This is not an uncommon method to use in order to provide specific focus (4, 5) and it was clear from some of the comments made by respondents that this was not an unfamiliar situation.

We found three comparable studies to ours in a PubMed search of the literature; two were questionnaire-based surveys, both giving surgeons a similar hypothetical case scenario of an elderly patient with dementia and an acute life threatening condition (4, 5). The third was an interview-based survey of surgeons regarding more general ethical dilemmas (6, 7). Two of the surveys however were based on very small sample sizes of 10 and 23 respondents (5, 6) and limited to a specific country. The other compared opinions of respondents from three European countries on factors affecting decision making in relation to end of life decisions at a very general level, rather than ones related specifically to surgical intervention.

Based on our results as well as those mentioned above, we found wide differences of opinion as to whether or not to operate, despite presenting a case where the criteria appear to be less debatable with regard to patient quality of life, i.e. the most that can be achieved in a surgical patients is a return to the status before operation - advanced, chronic, irreversible neurological deterioration. Our finding of between 20 and 60% of surgeons choosing to operate encompass those of Gallagher et al. (5), who reported 37%. All three surveys also identified relative's wishes and/or 'social consensus' as being significant influencers.

Compliance with patient's wishes is also an area for concern. Even though our survey did not ask if surgeons would respect or abide by an AD, other surveys have demonstrated that a substantial percentage of surgeons would not. Gallagher et al. found 30%, Richter et al. (4) commented 'a relatively large number of doctors would not act according to the explicit wishes of the patient,' and in a more recent survey of the Eastern Association for the Surgery of Trauma members (7), only 60% relied on ADs.

Whilst the presence of ADs may hypothetically appear to resolve some issues, the apparent lack of their use and status in practice suggests a different story. Religious, cultural, and family influences play a substantial role and, in some circumstances, conflict with the opinion of the surgeon. Interestingly, none of the surgeons in our survey cited resources/costs as an important factor in their decision making.

Finally, it has been suggested that physician clinical experience may play an important role in the process. Martin et al. (7) found 'being comfortable' with making a decision increased with experience, and other factors

were less influential.

Conclusions

Clear and additional support in the form of *legal and ethical guidance with clinical protocols* for medical and surgical practice in such case scenarios is necessary. Based on comments from surgeons taking our survey, a wider use of *Advanced Directives*, together with *education* about their role and support for patients and relatives in their use, would benefit the patient situation in our scenario.

MDT should play a more active role in decision making, to *avoid the potential futility* of surgery in these cases.

The concepts of *LTE* and *quality of life* need wider understanding and more consistent application, as the long held practice of prolonging life at any price is no longer considered valid.

This survey provides a base from which to investigate some of the issues raised further in relation to LTE and the range of case scenarios to which this might apply.

Annex:

Samples of surgeons' additional comments about the issue include:

"It is clear that, due to the aging population, (we) *will find ourselves more often with these situations"*

"Little law protection against limitation of therapeutic effort. Little social understanding in some advanced cases"

"Because nothing is protocolized and every case is different, sometimes you have personal ethic controversies"

"Cultural and religious beliefs of the relatives are especially imposed"

"I have to mediate between the system, the patients and family situation"

"Common sense depends too much on personal experience. We should keep researching about these situations"

Examples of changes surgeons think are necessary include:

"The need for protocols / guidelines / directives at a national and or hospital level"

"Raising awareness and promoting the use of Advanced Directives"

"Education of medical professionals and the public around the issues and expectations"

"Emergency doctors should not always call the surgeon for cases like this. They should avoid giving false hopes to family members."

"A protocol is necessary, however it will be difficult to make it. Every patient is different. "

Appendix 1&2:

Q1: https://goo.gl/forms/LkubsCjtJa1rdoNz1

Q2: https://goo.gl/forms/6wsPA80Qm3oE9zqo1

References

1. Borsellino P. Limitation of the therapeutic effort: ethical and legal justification for withholding and/or withdrawing life sustaining treatments. *Multidiscip Respir Med*. 2015; 10(1):5. PMID: 25705381, DOI:10.1186/s40248-015-0001-8
2. Zenilman ME. Surgery in the elderly. *Curr Prob Surg*. 1998; 35(2): 99–179. PMID: 9501842.
3. González-Martínez S, Martín-Baranera M, Martí-Saurí I, Borrell-Grau N, Pueyo-Zurdo JM. Comparison of the risk prediction systems POSSUM and P-POSSUM with the Surgical Risk Scale: A

prospective cohort study of 721 patients. *Int J Surg. 2016;* 29: 19 -24. PMID: 26970177, DOI: 10.1016/j.ijsu.2016.03.005

4. Richter J, Eisemann M , Zgonnikova E. Doctors' authoritarianism in end-of-life treatment decisions. A comparison between Russia, Sweden and Germany. *J Med Ethics* 2001; 27(3): 186–91. PMID: 11417027
5. Gallagher P, Clark K. The ethics of surgery in the elderly demented patient with bowel obstruction, *J Med Ethics* 2002; 28(2): 105–8. PMID: 11934940
6. Torjuul K, Nordam A ,Sørlie V. Action ethical dilemmas in surgery: an interview study of practicing surgeons, *BMC Medical Ethics* 2005; 6: 7. PMID: 15996268, DOI:10.1186/1472-6939-6-7
7. Martin ND, Stefanelli A, Methvin L, Fischer C, Counsilman M, Mazandi V, Laganosky D, Zubair M, Beekley AC, Weinstein MS. Contrasting patient, family, provider, and societal goals at the end of life complicate decision making and induce variability of care after trauma. *J Trauma Acute Care Surg*. 2014; 77(2): 262-7. PMID: 25058252, DOI: 10.1097/TA.0000000000000304