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Medical Liability in Neurosurgery: Greek Courts Decisions Analysis

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ABSTRACT

AIM: To assess the current situation in Greece regarding medical liability in neurosurgery, the involvement of anaesthetists in court decisions, the impact of court cases and decisions, the time taken to reach a final decision, and the relationship between these issues and judicial results.

MATERIAL and METHODS: Legal information banks were searched for published court decisions of criminal, civil, administrative and disciplinary content from 1985 to 2021.

RESULTS: A total of 52 court decisions were retrieved: 11 criminal court cases and 10 civil cases, including 7 cases of negligent homicide and 14 of bodily injuries. The duration of litigation in 17 cases was 5.5 years, while in 4 cases the duration was 14.5 years. The average compensation paid was € 101,701.

CONCLUSION: Neurosurgery has a relatively small number of reported complaints of medical negligence compared to other surgical specialties in Greece. Complications of spinal surgeries represent the majority of court cases. There is a need for immediate judicial–legislative reform of the framework for seeking medical liability of doctors.

KEYWORDS: Medical liability, Malpractice, Neurosurgery, Spinal surgery

INTRODUCTION

In recent decades, significant advances have been made in medicine but the doctor–patient relationship has deteriorated, and complaints of poor medical practice are on the rise. A report by the American Medical Association reveals that more than 42% of all doctors have been sued. Of these, 57% concerned surgeons. The specialties with the highest rates of medical malpractice litigation are obstetrics–gynaecology, general surgery and internal medicine, while medical error can occur regardless of the doctors' experience (12,17).

Given the extremely complex and demanding clinical environment in which neurosurgeons operate, the likelihood of experiencing a medical malpractice suit is high (6). In the USA, neurosurgery represented 21.1% of malpractice accusations (14), and the claims for medical negligence in neurosurgery are among the most expensive, with the total financial burden increasing annually (3).

The deterioration of the doctor–patient relationship and the constant pressure of possible accusation encourage surgeons to adopt defensive behaviours to minimize litigation risks and increased insurance premiums. These phenomena, among others, can affect the quality of care and the professional life of doctors to the extent that they may consider changing or terminating their careers earlier (4). In fact, some neurosurgeons may refuse to take on high-risk patients and/or procedures (8).

Case studies on medical malpractice, especially of the causes leading to medical malpractice, could be used to review risk patterns and raise physicians' awareness of certain risks, as well as to suggest corrective or preventive action in future practice, thus minimising the risk of future errors.

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The purpose of our research is to assess the current situation regarding medical liability in neurosurgery in Greece, the involvement of anesthesiologists in court decisions, the impact of court cases and decisions, the time until the final decision, and the relationship between these issues and judicial results.

MATERIAL and METHODS

Published court decisions of criminal, civil, administrative and disciplinary content from 1985 to 2021 were extracted from the legal information banks "Nomos/Νόμος", "Sakkoulas online.gr" and "Bank of the Athens Bar Association/ Τράπεζα Δικηγορικού Συλλόγου Αθηνών", from legal magazines, such as "Nomiko Vima/Νομικό Βήμα", "Greek Justice/ Ελληνική Δικαιοσύνη", "Criminal Chronicles/Ποινικά Χρονικά", "Criminal Justice/Ποινική Δικαιοσύνη". Keywords used were: "Neurosurgeon", "Medical liability, criminal", "Neurosurgeon's medical error".

The chronology of the operation, the duration of the legal dispute and the causes that led to the unfavourable result were recorded. The court decisions were analysed by a specialist neurosurgeon and a specialist anaesthetist for the causes of death and the correctness of the court decision in collaboration with the lawyers undertaking this study. It was checked whether detailed history, informed patient consent, timely medical and surgical treatment, and continuous and intensive monitoring were applied to all patients, and whether all operations were performed in organised institutions.

RESULTS

Out of a total of 52 court decisions, 11 criminal court cases and 10 civil cases involving 7 cases of negligent homicide and 14 bodily injuries were retrieved. The mean duration of litigation in 17 cases was 5.5 (3–9) years, while in 4 cases the duration was 14.5 (12–19) years. The average compensation paid was € 101,701 (€ 40.00–€ 130,000). Moreover, 5 cases resulted in acquittal for the doctor; out of these, 2 were civil and 3 were criminal. 18 of the 26 decisions in total (69.23%) concerned the decade 2011–2020 and 7 (26.92%) the decade 1991–2000.

Table I shows the causes of negligent homicide and bodily harm attributed to a neurosurgeon in criminal and civil cases.

In one case of negligent homicide, there was a referral, and, in one case of bodily harm, there was a cessation. In one case, two neurosurgeons were convicted, in one, three neurosurgeons and, in one, both a neurosurgeon and an orthopaedic surgeon.

Table I: Causes of Homicide and Bodily Harm by Neurosurgeon Negligence in Criminal and Civil Cases

HISTORY	n	Compensation
Negligent homicide		
Post-cervical fusion meningitis	2	€ 130.000
Post-traumatic subarachnoid hemorrhage, massive pulmonary embolism	1	€ 130.000
Post-myelography pulmonary embolism	1	
Epidural and subdural abscesses drainage- Missed abscesses, improper treatment, sepsis.	1	€ 127.210
Brain neuroma removal, meningeal graft infection, meningitis	1	
NSAID-related allergic shock, missed in history taken	1	
Negligent bodily harm		
Cervical spine surgery, spinal cord injury	4	
Cervical spine surgery, nerve damage	1	
Post cervical discectomy impairment, inadequate informed consent	1	
Missed diagnosis and delayed surgical treatment, quadriplegia	1	€ 100.000
Wrong diagnosis of spinal cyst instead of spinal tumor	1	€ 83.000 +€ 250/month
Endoscopic cervical surgery, inadequate informed consent	1	
Improper surgical plan, proved by an expert during court	1	
L4–L5 root damage	1	€ 40.000
Re-operation in a brain cancer patient, no informed consent	1	
Tendon rupture, left median nerve damage during surgery	1	

The neurosurgeon was acquitted in the following 5 cases.

1. Post laminectomy cervical spine relaxed paralysis.
2. 4-level laminectomy. The doctor is not responsible for postoperative orthopaedic problems.
3. Fracture—dislocation of cervical vertebrae A6–A7, quadriplegia. There were no errors attributed to neurosurgeons.
4. Revocation of a conviction of a transferable neurosurgeon. He was not responsible for the postoperative follow-up nor for any injuries that the patient suffered postoperatively.
5. Rupture of a lesion of an anterior anastomotic artery aneurysm followed by death of the patient.

In one of these acquittals, a total of 8 doctors and nurses were accused.

DISCUSSION

This study provides an overview of the allegations of clinical negligence in neurosurgery in Greece from 1985 to 2021. In our research, 52 court decisions were retrieved concerning 12 criminal cases, 9 civil and 5 acquittals, with 69% of these occurring in the decade 2011–2020. The total number of cases involving neurosurgeons was significantly lower than those in other surgical specialties such as anaesthesia and general surgery (15,16). However, the total number of surgical procedures in neurosurgery in Greece is known to be significantly smaller.

Our research considered were 7 (33%) cases of negligent homicide, and 12 (57%) cases of bodily harm. 75% of cases (n=15) involved complications of spine surgery, 8 of which involved complications of cervical surgery. The main causes of complications are incorrect or delayed diagnosis or treatment, incorrect surgical technique, and lack of attention during the operation. Aggravating factors in the neurosurgeon's conviction were the lack of documented medical history (n=1), inadequate provision of information to patients (n=2), the lack of patient's informed consent (n=1), and the lack of documentation (n=1). The case durations ranged over 3–19 years, and the compensations paid ranged from € 40,000 to € 130,000.

Our results are in line with the international literature. In the research of Santiago-Sáez et al., 62.5% of the operations concerned spinal surgery, and 28.6% concerned cranial operations. Permanent consequences of the operation were reported in 40% of cases, and death in 22%. Insufficient documentation or consent was a finding in 17% of lawsuits. One out of every five cases were criminal and the remaining four were civil for damages. The compensation imposed ranged from € 60,000 to € 600,000 (9).

In the study of Elsamadicy et al., in 2131 closed cases, the majority of them concerned bodily injuries following spine surgery. Homicide due to negligence in these cases concerned 22.9%. The main medical factors that led to a claim were the inadequate performance of the neurosurgeon (42.1%), preoperative intervertebral disc disorder (20.6%), and surgery on the spine and spinal cord (21.0%) (3).

In the study by Taylor et al., the average compensation for spine surgery cases was USD 278,362 versus USD 423,539 for medical management cases and USD 438,183 for cranial surgery cases. Improper performance, incorrect surgery and improper procedure were the causes that led to conviction. The most common presumed factors in cranial surgery were misdiagnosis and inadequate performance (13).

In Mukherjee et al.'s investigation of 48 closed claims, 42 involved spinal surgery. The most common causes of the allegations were incorrect surgical technique (43%), delayed diagnosis/misdiagnosis (17%), lack of documentation (14%) and delay in treatment (12%). The highest average payments were claims for incorrect surgical technique (GBP 230,000) and delayed diagnosis / misdiagnosis (GBP 2,212,650). The average duration between the clinical event and the final court decision was 664 days (7).

Our investigation found no court record of joint complicity of a neurosurgeon and an anaesthetist in any of the cases. In the study by Simonsen et al., in 315 closed claims after head and neck surgery, nerve injuries accounted for 20.3% of the total cases, esophageal injuries 4.4%, vascular injuries 3.5%, postoperative infections 0, 6%, and anesthesia complications due to airway management for 8.6%. In this study, perioperative complications accounted for 53.7% in head and neck surgeries, delay or no diagnosis in 34.6%, and persistence or recurrence of the disease 6.7% (10).

High compensations and the growing impact of medical liability push professionals into defensive practice. In the Debono B et al. survey, 64.5% of the 78 private neurosurgeons in France had experienced a medical malpractice dispute and 60.2% had already refused to perform high-risk surgeries. Fear of being sued added negative pressure during surgery for 55.1% of respondents, and 37.2% of them had already considered quitting because of this judicial framework (1). In the United States in particular, avoidance and safeguarding behaviours among neurosurgeons are widespread and are associated with subjective and objective risk-avoiding measures. Defensive medical practices do not promote patient-centered care and may result in increased inefficiency in an already taxed healthcare system (11).

Din et al. conducted an online study in the United States and found that spinal neurosurgeons were about three times more likely to practice defensive medicine than neurosurgeons when controlling high-risk procedures (2). There are no corresponding publications for Greece, however, medical professionals openly state that defensive medicine is practiced silently by many doctors.

In our investigation, there were 2 cases of providing inadequate information to the patient about possible complications, while, in another 2, the signed informed consent contributed to the acquittal. Implementing informed patient consent is an important aspect of clinical practice. Neurosurgeons have a duty to provide patients with all relevant information that allows them to make decisions about whether to undergo medical treatment. One factor that limits the ability to provide informed consent is cognitive impairment. There is certainly

room for improvement in the consensus process after being informed in these cases in multiple ways.

Particularly impressive is the fact that, in one case, there were 8 accused doctors and nurses, who were eventually acquitted. Certainly, in this case there was a lack of understanding of the problem and the medical function by the prosecutor. On the other hand, collective responsibility in criminal law is inconceivable, even if it appears in the guise of complicity, which in reality does not exist. This is a problem that is often encountered in court practice at the level of criminal prosecution, and less at the level of court decisions.

A limitation of our research is that there are cases that have not been published. In particular, delay in case trials may be responsible for possible errors in the data analysis, as it is possible that more procedures concerning neurosurgeons exist at the moment, but have not yet been published.

CONCLUSION

Neurosurgery has a relatively small number of reported complaints of medical negligence compared to other surgical specialties in Greece. Complications of spinal surgeries represent the majority of court cases.

To avoid medical negligence, the most important aspects that need to be addressed are the improvement of the doctor–patient relationship, communication between the doctor and the patient's family members, constant monitoring of the patient, the hyper specialization and the correct completion of medical records. Informed consent for possible complications can contribute significantly to the acquittal of doctors. Legal aspects should be considered as part of medical education during undergraduate studies, because "ignorance of the law is no excuse" (5).

There is also a need for immediate judicial–legislative reform of the framework for seeking medical liability of doctors at all levels, civil, criminal, administrative, disciplinary, in order to quickly clear the relevant cases—and with the appropriate means so that those involved are not subject to inconveniences tantamount to an indirect conviction, in the event of acquittal. Expert committees should be set up for each medical specialty to preliminary investigate cases of alleged medical negligence before reaching justice, and also for assistance during the evidentiary process, when they are brought to justice.

AUTHORSHIP CONTRIBUTION

Study conception and design: ES, LT, GP

Data collection: LT, KT, AL

Analysis and interpretation of results: KT, ES, GP

Draft manuscript preparation: ES, LT, GP

Critical revision of the article: KT, AL

Other (study supervision, fundings, materials, etc...): KT, GP

All authors (LT, ES, KT, AL, GP) reviewed the results and approved the final version of the manuscript.

REFERENCES

1. Debono B, Hamel O, Guillain A, Durand A, Rué M, Sabatier P, Lonjon G, Dran G; French Society of Private Neurosurgeons (SFNCL). Impact of malpractice liability among spine surgeons: A national survey of French private neurosurgeons. Neurochirurgie 66(4):219-224, 2020
2. Din RS, Yan SC, Cote DJ, Acosta MA, Smith TR: Defensive medicine in U.S. spine neurosurgery. Spine (Phila Pa 1976) 42(3):177-185, 2017
3. Elsamadicy AA, Sergesketter AR, Frakes MD, Lad SP: Review of neurosurgery medical professional liability claims in the United States. Neurosurgery 83(5):997-1006, 2018
4. Guillain A, Moncany AH, Hamel O, Gerson C, Bougeard R, Dran G, Debono B: Spine neurosurgeons facing the judicialization of their profession: Disenchantment and alteration of daily practice-a qualitative study. Acta Neurochir (Wien) 162(6): 1379-1387, 2020
5. Kahan DM: Ignorance of law is an excuse: But only for the virtuous. Michigan Law Review 96(1):127-154, 1997
6. Larkin CJ, Roumeliotis AG, Karras CL, Murthy NK, Karras MF, Tran HM, Yerneni K, Potts MB: Overview of medical malpractice in neurosurgery. Neurosurg Focus 49(5):E2, 2020
7. Mukherjee S, Pringle C, Crocker M: A nine-year review of medicolegal claims in neurosurgery. Ann R Coll Surg Engl 96(4):266-270, 2014
8. Nahed BV, Babu MA, Smith TR, Heary RF: Malpractice liability and defensive medicine: A national survey of neurosurgeons. PLoS One 7(6):e39237, 2012
9. Santiago-Sáez A, Perea-Pérez B, Labajo-González E, Albarrán-Juan ME, Barcia JA: Analysis of judicial sentences against neurosurgeons resolved in second court of justice in Spain in the period from 1995 to 2007. Neurocirugia (Astur) 21(1):53-60, 2010
10. Simonsen AR, Duncavage JA, Becker SS: Malpractice in head and neck surgery: A review of cases. Otolaryngol Head Neck Surg 147(1):69-73, 2012
11. Smith TR, Habib A, Rosenow JM, Nahed BV, Babu MA, Cybulski G, Fessler R, Batjer HH, Heary RF: Defensive medicine in neurosurgery. Neurosurgery 76(2):105-114, 2015
12. Studdert DM, Mello MM, Gawande AA, Gandhi TK, Kachalia A, Yoon C, Puopolo AL, Brennan TA: Claims, errors, and compensation payments in medical malpractice litigation. N Engl J Med 354(19):2024-2033, 2006
13. Taylor CL: Neurosurgical practice liability: Relative risk by procedure type. Neurosurgery 75(6):609-613, 2014
14. Thomas R, Gupta R, Griessenauer CJ Moore JM, Adeeb N, Alterman RL, Friedlander RM, Ogilvy CS, Thomas AJ: Medical malpractice in neurosurgery: A comprehensive analysis. World Neurosurgery 110:e552–e559, 2018
15. Tzoumas L, Samara E, Tzoumas K, Tzimas P, Papadopoulos G: Medical liability in anesthesiology. Greek courts decisions analysis. Scientific Chronicles 26(1):129-139, 2021
16. Tzoumas L, Samara E, Tzoumas K, Tzimas P, Vlachos K, Papadopoulos G: Medico-legal analysis of general surgery cases in Greece: A 48 year study. Cureus 13(7):e16205, 2021
17. Vincent C, Bark P, Jones A, Olivieri L: The impact of litigation on obstetricians and gynaecologists. J Obstet Gynaecol 14: 381-387, 2009