

Report of the investigation of research papers authored by
Dr. Hironobu Ueshima

May 14, 2021

The Japanese Society of Anesthesiologists's special committee for the investigation of
research papers authored by Dr. Hironobu Ueshima

□ Background and overview

• Timing and cause of detection

In March 2020, Professor Michiaki Yamakage, the editor-in-chief of the *Journal of Anesthesia* (hereinafter referred to as “JA”), received a letter from Professor John Loadsman, the editor-in-chief of *Anaesthesia and Intensive Care*, informing him that they concluded that there was data fabrication in a manuscript entitled “Continuous anterior quadratus lumborum block provides more effective postoperative pain relief for total hip arthroplasty than continuous lumbar plexus block: a randomised single-blind study” submitted by Dr. Hironobu Ueshima of Showa University after they examined a letter of approval from the ethics committee for the clinical study and the raw data he submitted to the journal. Professor Loadsman alerted the Showa University ethics committee, the JA editor-in-chief (Prof. Yamakage), the University hospital Medical Information Network (UMIN) Center, and the co-authors of the manuscript to investigate all published works authored by Dr. Ueshima. Furthermore, Prof. Loadsman contacted the editors-in-chief of other anesthesia-related journals and informed them that the recent research by Dr. Ueshima needed to be re-investigated.

Based on the above, during the board meeting of this society in March 2020, the board decided to establish a special committee for an investigation into the fabrication of papers authored by Dr. Ueshima.

□ Investigation

• A special committee for a fraud investigation

The Japanese Society of Anesthesiologists formed a special committee for an investigation into the fabrication of papers and conducted the investigation.

• Details of the investigation

Papers subject to investigation: 165 papers

(15 original papers, 17 case reports, 131 Letters to the Editor, and 2 reviews or others)

Investigation period: March 19, 2020 to November 7, 2020

Persons subject to investigation: Dr. Ueshima, Dr. Hiroshi Otake, and other lead authors and co-authors

Investigation method: By requesting the research sites of Dr. Ueshima’s papers to investigate. The research sites were: Showa University Hospital, Saitama Medical University International Medical Center, Kansai Medical University, and Okayama University. By interviewing and preparing written reports of the individuals concerned.

1. Results of the investigation at research sites

This committee requested the following sites to conduct investigations by specifying the papers that should be investigated.

(1) Showa University Hospital

- 1) Papers subject to investigation: 147 papers (12 original papers, 9 case reports, 120 Letters to the Editor, 1 in related fields and topics, 1 in Images in Anesthesiology, and 4 original pre-publication papers)
- 2) Persons subject to investigation: Dr. Ueshima, Dr. Otake, and 45 other lead authors and co-authors
- 3) Investigation method: Collection and detailed examination of related materials, cross-check of papers and raw data, interview with and written report of Dr. Ueshima, interview with and written report of Dr. Otake, interview with and written report of Dr. Eiko Hara, interview with and written report of Dr. Sakatoshi Yoshiyama, written reports of other authors

4) Investigation results:

- (1) Types of identified misconducts: ① Fabrication and falsification, ② Inappropriate authorship
- (2) Researchers related to misconducts:
Dr. Ueshima, Dr. Otake, Dr. Yoshiyama, and Dr. Hara
- (3) Researcher determined as being responsible for the content of the papers, etc. related to the research in which specific misconduct was identified:

Dr. Otake

(4) ● Fabrication

(9 original papers, 5 case reports, 93 Letters to the Editor, 1 in related fields and topics, and 4 original pre-publication papers)

- ① Papers written without conducting research by fabricating all of the data including patient background:
2 original papers and 73 Letters to the Editor
- ② Papers with fabricated data, without conducting research, by using the background of actual patients:
2 original papers and 4 original pre-publication papers
- ③ Papers with partially fabricated research data:
5 original papers, 1 case report, and 1 Letter to the Editor
- ④ Papers for which raw data supporting the research cannot be

submitted and therefore fabrication cannot be disproven:

4 case reports, 1 in related fields and topics, and 17 Letters to the Editor

- ⑤ Papers with patient background and details of practice that differ from those in submitted supporting materials and therefore fabrication cannot be disproven:

2 Letters to the Editor

- Falsification

(1 original paper, 2 case reports, and 2 Letters to the Editor)

- ① Papers with values different from raw data:

1 original paper

- ② Papers with complications or drug names in case reports that differ from the facts:

1 case report

- ③ Papers with names of nerve blocks different from those in submitted supporting materials:

1 case report and 2 Letters to the Editor

- Inappropriate authorship

(12 original papers, 9 case reports, 1 in related fields and topics, 105 Letters to the Editor, and 4 original pre-publication papers)

(2) Saitama Medical University International Medical Center

1) Papers subject to investigation: 17 papers (1 original paper, 5 case reports, and 11 Letters to the Editor)

2) Investigation method: Preliminary investigation

3) Investigation results: When a preliminary investigation was conducted based on the materials provided by the Department of Anesthesiology at Saitama Medical University International Medical Center, no apparent misconduct was confirmed within the scope that could be investigated. Therefore, a full investigation was considered unnecessary.

(3) Kansai Medical University

1) Papers subject to investigation: 5 papers

2) Investigation results: When 2 original papers and 3 case reports were investigated, no objective facts that verified research misconduct were found.

(4) Okayama University

- 1) Papers subject to investigation: 9 papers (9 Letters to the Editor that overlapped with those investigated in relation to Showa University Hospital)
- 2) Investigation results: Three papers were confirmed to be based on properly conducted research. Other papers were not investigated because the research sites were not specified and use of photos and publication of the papers were not reported.

2. Interviews with and written reports of the individuals concerned in this investigation

Members of this society who are lead authors or co-authors of at least 2 papers were interviewed and written reports were prepared. For other individuals, written reports were prepared and interviews were conducted as necessary.

<Persons subject to an interview and a written report>

• Dr. Hironobu Ueshima, Dr. Hiroshi Otake, Dr. Eiko Hara, Dr. Sakatoshi Yoshiyama, and 7 other individuals

<Persons subject only to a written report>

5 individuals

- Composition of investigation committee (including names and affiliations), time, date, and details of meetings, etc.

Chair Masahiko Kawaguchi (Professor, Nara Medical University Hospital)

Members

Shiroh Isono (Professor, Chiba University Hospital)

Makiko Komori (Professor, Tokyo Women's Medical University Medical Center East)

Yoshito Shiraishi (Shimada Municipal Hospital, member of the ethics committee of the Japanese Society of Anesthesiologists)

Mishiya Matsumoto (Professor, Yamaguchi University Hospital)

The 1st special investigation committee meeting

July 2, 2020 (Thursday) 15:00 to 17:00

- Investigation policy for the fabrication of papers authored by Dr. Ueshima
- Interviews with Dr. Ueshima and Dr. Otake

The 2nd special investigation committee meeting

September 11, 2020 (Friday) 17:00 to 19:00

- Investigation report of Saitama Medical University International Medical Center

- Response to investigation items for co-authors at Showa University
- Measures to prevent recurrence of research misconduct by society members

The 1st interview with lead authors and co-authors

October 17, 2020 (Saturday) 13:00 to 17:00

- Interviews with 7 individuals involved at Showa University

The 2nd interview with lead authors and co-authors

October 26, 2020 (Monday) 13 : 00 to 14 : 00

- Interview with 1 individual involved at Showa University

The 3rd special investigation committee meeting

November 7, 2020 (Saturday) 13 : 00 to 15 : 00

- Interview with 1 individual involved at Showa University
- Investigation report

The 4th special investigation committee meeting

April 2, 2021 (Friday) 13:00 to 15:00

- Investigation report
- Additional written report of co-authors

The 5th special investigation committee meeting

May 8, 2021 (Saturday) 17:00 to 18:00

- Investigation report

Investigation results

- Papers involving misconduct (including inappropriate authorship)
12 original papers, 9 case reports, 1 in related fields, and 120 Letters - 142 in total
- Types of identified misconducts
Fabrication and falsification
Inappropriate authorship
- Researchers related to misconduct
Dr. Hironobu Ueshima, Lecturer (at the time of the misconduct), Department of Anesthesiology, Showa University School of Medicine
Identified misconducts: Fabrication, falsification, inappropriate authorship

Dr. Hiroshi Otake, Professor (at the time of the misconduct), Department of Anesthesiology, Showa University School of Medicine

Identified misconduct: Inappropriate authorship

Dr. Sakatoshi Yoshiyama, Assistant Professor (at the time of the misconduct), Department of Anesthesiology, Showa University School of Medicine

Identified misconduct: Inappropriate authorship

Dr. Eiko Hara, Assistant Professor, Department of Anesthesiology, Showa University School of Medicine

Identified misconduct: Inappropriate authorship

- Researcher determined as being responsible for the content of the papers, etc. related to the research in which specific misconduct was identified:

Dr. Hiroshi Otake, Professor (at the time of the misconduct), Department of Anesthesiology, Showa University School of Medicine

- Use of competitive funds related to the research in which misconducts were committed
Not applicable

- Details of misconduct

(Fabrication)

No research was conducted. All of the data including patient backgrounds were fabricated.

2 original papers

Attachment Nos. 26, 27

73 Letters to the Editor

Attachment Nos. 73, 75, 76, 78, 79, 80, 81, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 94, 95, 96, 99, 100, 101, 102, 103, 104, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 126, 127, 129, 130, 131, 132, 133, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 148, 149, 152, 153, 154, 155, 156, 157, 158

No research was conducted. Data were fabricated using the backgrounds of actual patients.

2 original papers

Attachment Nos. 31, 33

Partial fabrication of research data

5 original papers

Attachment Nos. 25, 28, 29, 30, 32

1 case report

Attachment No. 42

1 Letter to the Editor

Attachment No. 93

Raw data supporting the research cannot be submitted and therefore fabrication cannot be disproven.

4 case reports

Attachment Nos. 34, 36, 37, 38

1 in related fields and topics

Attachment No. 164

17 Letters to the Editor

Attachment Nos. 68, 69, 71, 72, 74, 77, 82, 97, 98, 105, 125, 128, 147, 150, 151, 159, 160

Content of supporting materials differ from description in papers and therefore fabrication cannot be disproven.

2 Letters to the Editor

Attachment Nos. 162, 134

(Falsification)

Values different from Dr. aw data are used.

1 original paper

Attachment No. 24

Complications or drug names differ from the facts.

1 case report
Attachment No. 40

Nerve blocks different from those in supporting materials are included.

1 case report
Attachment No. 41
2 Letters to the Editor
Attachment Nos. 62, 65

(Inappropriate authorship)

12 original papers
Attachment Nos. 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33

9 case reports
Attachment Nos. 34, 35, 36, 37, 38, 39, 40, 41, 42
1 in related fields and topics
Attachment No. 164

105 Letters to the Editor
Attachment Nos. 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 54, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 123, 124, 125, 126, 127, 128, 129, 130, 131, 133, 135, 136, 140, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 156, 157, 159, 160, 162, 134

• Conclusion based on investigation and reason for assessment

Dr. Ueshima confessed that he had committed fraud related to research papers during the investigation by Showa University and this society. In Showa University's investigation, when it could not be verified that a certain paper was not fabricated because the raw data that should serve as the evidence could not be submitted or the paper was lacking in supporting data, the paper was deemed to be fabricated. In addition, when the data in a certain paper were inconsistent with the raw data, an explanation based on scientific evidence could not be provided, and the author admitted that the paper was falsified, the paper was deemed to be falsified. The investigation of the roles of the individual authors showed that all data processing and analyses for the papers in which misconduct was determined were performed

solely by Dr. Ueshima and Dr. Ueshima was determined to be the researcher responsible for the fabrication and falsification. Moreover, the actions of Dr. Ueshima, who was the corresponding author, of presenting the names of the individuals not involved or only partially involved in research as lead authors, of presenting the names of the individuals not involved in research as co-authors, and of submitting papers without the agreement of co-authors were determined to be “inappropriate authorship.”

Dr. Otake failed to prevent the fraud because he neglected to provide the instructions concerning research papers and related confirmation tasks despite his position and responsibility to provide instruction and supervision as the person responsible for the department. The pressure Dr. Ueshima felt in Showa University’s merit system led to his misconduct and Dr. Otake insufficiently managed his subordinate and did not detect the misconduct. Although Dr. Otake was not identified as being involved in fabrication and falsification, he was determined to be responsible for management. Additionally, despite the fact that Dr. Otake acknowledged in many cases that he was a co-author, receiving e-mails from publishers after submission, he did not provide appropriate instruction to Dr. Ueshima. Therefore, his actions were identified as “inappropriate authorship.”

Dr. Yoshiyama presented an original paper in which he was involved only through a part of the data collection at an academic meeting and used this paper as his dissertation following Dr. Ueshima’s recommendation. No involvement in fabrication or falsification was observed and it was difficult for Dr. Yoshiyama to be responsible for the content of the paper as Dr. Ueshima did not give Dr. Yoshiyama any opportunity to check its content before submission. However, Dr. Yoshiyama became the lead author because of the gifted authorship by Dr. Ueshima, presented the paper at an academic meeting, and used it as his dissertation, which is determined to be “inappropriate authorship.”

Dr. Hara became the lead author of an original paper at the discretion of Dr. Ueshima, although she was not involved in the research, and used this paper as her dissertation. No involvement in fabrication or falsification was observed and it was difficult for her to be responsible for the content of the paper as Dr. Ueshima did not give her any opportunity to check its content before submission. However, Dr. Hara became the lead author because of the gifted authorship by Dr. Ueshima and used the paper as her dissertation, which is determined to be “inappropriate authorship.”

Some of other co-authors of the papers found to be associated with fabrication, falsification, or inappropriate authorship by Dr. Ueshima were partially involved in the research through tasks such as data collection, while others were not involved at all. These co-authors were not involved in fabrication or falsification. None of the co-authors were given any opportunity to check the content of the paper concerned before submission. Thus, the other co-authors were

shown not to be involved in any misconduct and determined not to be responsible for the content of the papers.

Other co-authors were not sufficiently educated in research ethics and were not in the position or work environment where they could express their opinions to Dr. Ueshima and Dr. Otake, who were their superiors. Therefore, even in cases where they noticed inappropriate authorship, they were unlikely to be able to self-rectify it within the organization. A defect in the organizational structure is considered to have existed. Nevertheless, some co-authors were confirmed to have presented these published papers as their papers at the time of the renewal of the assistant professor tenure or the application for the renewal of their specialist status in this society. This action was inappropriate for current social standards and therefore, Showa University and the Japanese Society of Anesthesiologists should continue to investigate it and consider measures including those for prevention of recurrence.

□ Factors leading to the occurrence of misconduct and measures to prevent recurrence

• Factors leading to the occurrence

① Dr. Ueshima's unawareness of research integrity

Although Dr. Ueshima attended seminars on research ethics regarding the proper processes to conduct research and the publication of papers, he committed an enormous amount of fraud. One of the factors was a lack of awareness of research ethics.

② Inadequate system for conducting research

While Dr. Ueshima asked his co-researchers to perform some data collection, he planned the research, managed and analyzed the data, and prepared manuscripts by himself. The co-authors did not even know what kind of research was being conducted. Experiment notes were not prepared/stored properly and data were not stored properly. Manuscripts were submitted to journals without permission. Information was not shared between co-authors, which was one of the factors for the misconduct.

③ Lack of research data management structure

Dr. Otake considered Dr. Ueshima trustworthy based on his extreme diligence in clinical tasks and high recognition of his clinical techniques from outside the university. As Dr. Ueshima was also making proactive efforts in research, he worked by himself, including the selection of co-authors. As a result, Dr. Ueshima was submitting manuscripts without prior consultation on or confirmation of details of research with Dr. Otake, who was responsible for the department and a co-author of the papers. Although Dr. Ueshima wrote and published many papers, Dr. Otake did not confirm the content of the papers. Therefore, inappropriate management of and audit structure for research data

inside the department were factors leading to the misconduct.

④ Merit-based organizational operation structure

As is the case with many other universities, clinical practice performance and research performance are used for the assessment of clinical departments and individuals at Showa University. Dr. Ueshima needed to co-author papers not only for his own promotion, but also for the renewal of assistant professors among staff physicians or the recruitment of new staff physicians. For this reason, a custom of becoming a lead author or co-author without involvement in research was observed in the department. Dr. Otake who was responsible for the organizational operation of the Department of Anesthesiology was aware of such a structure and neglected efforts to improve it, which is considered a major background factor for the continuation of the research misconduct under the present investigation.

⑤ Lack of awareness of responsibility involved in authorship and work environment

While Dr. Ueshima wrote papers without the consent of co-authors, each co-author was completely unaware of the responsibility associated with being an author of papers. This is one of the factors for the misconduct related to a large number of papers. The educational system concerning research ethics is inadequate and has room for improvement. Moreover, the work environment that did not allow researchers to report or notify research misconduct to superiors when they noticed it, without being influenced by the power balance within the organization, is also considered to be an important factor for its occurrence.

• Measure to prevent recurrence

The results of this investigation show that managers in management positions have a heavy responsibility. At each site, research needs to be conducted based on the full recognition of the duties of managers, including the management of subordinates, after training of the managers. Moreover, a structure that enables appropriate information sharing among co-authors and appropriate data management during the research process needs to be established. In the future, opportunities where researchers have their research evaluated by third parties, such as presentations at academic meetings or conferences within the site, should be increased and such processes should be promoted for preparing research papers. In addition, this society proposes the following measures to prevent recurrence.

① Thorough education in research ethics at each site

• Re-ensure each site that it must provide education on research ethics, specifically regarding the conduct of medical research by and reporting duties of the responsible person at the

research site, lead authors, and co-authors in accordance with the “Ethical Guidelines for Medical and Health Research” or the “Guidelines for Responding to Misconduct in Research” developed by the Ministry of Education, Culture, Sports, Science and Technology and the Ministry of Health, Labour and Welfare

- ② Thorough dissemination of research ethics by the Japanese Society of Anesthesiologists
 - Implement measures including requiring the members to review certain research ethics educational content for certification as specialists or at the time of presentation in academic meetings. Members must be informed that, especially, the preparation and storage of experimental notes, storage of data, information sharing regarding research plans and progress among co-authors, confirmation among co-authors at the time of manuscript submission, and proper authorship must be implemented thoroughly.
- ③ Thorough establishment of proper management structure
 - Inform the personnel responsible for anesthesiology departments at facilities certified by the Japanese Society of Anesthesiologists of the establishment of an implementation structure for data management and audit in research and request the personnel to check and improve the work environment that allows for self-rectification of research misconduct.
- ④ Prevention by disseminating information about the contact for the accusation of misconduct in research activities
 - Disseminate information about the contact for the accusation of misconduct in research activities listed on the website of the Japanese Society of Anesthesiologists in order to respond to accusations early
- ⑤ Calling the members’ attention to research misconduct cases through public relations via the society website

ID	Journal	Title
1	Anaesthesia . 2010 Jul;65(7):684-7	Tracheal intubation in daylight and in the dark: a randomised comparison of the Airway Scope, Airtraq, and Macintosh laryngoscope in a manikin.
2	August 2013Immunopharmacology and Immunotoxicology 35(5)	Suppression of phagosome proteolysis and Matrigel migration with the α 2-adrenergic receptor agonist dexmedetomidine in murine dendritic cells.
3	麻酔 57(1): 82-84, 2008.	エアウェイスコープにブジーを併用し気管挿管が可能であった症例
4	麻酔 62(4): 439-441, 2013.	超肥満患者の腹横筋膜面ブロックをコンベックスプローブを使って施行できた1症例
5	麻酔 63(5): 561-563, 2014.	難渋した帝王切開後管理を持続硬膜外麻酔と腹横筋膜面ブロックを併用することにより良好にできた1症例
6	May 2015Journal of Anesthesia 29(5)	The use of a needle guide kit improves the stability of ultrasound-guided techniques.
7	臨床麻酔 37(9): 1387-1388, 2013.	気管チューブを右口角に固定したにもかかわらず一過性の左舌下神経麻痺が起こった1例
8	臨床麻酔 37(10): 1511-1512, 2013.	腹直筋内に発症した神経鞘腫の摘出術を腹横筋膜面ブロックで管理できた症例
9	臨床麻酔 38(4): 671-672, 2014.	在宅酸素療法中の患者の乳腺部分摘出術を胸筋神経ブロックIIで管理できた1症例
10	臨床麻酔 39(6): 927-928, 2015.	腋窩リンパ節郭清術をPECS I, IIブロックと腕神経叢ブロックで管理できた1症例
11	麻酔 64(10): 1056-1058, 2015.	McGRATH MACビデオ喉頭鏡で気管挿管ができなかった症例に対してParker Flex-ITM StyletとMcGRATH MACビデオ喉頭鏡の併用で気管挿管が可能となった1症例

ID	Journal	Title
12	May 2014Journal of Clinical Anesthesia 26(3)	A case of internal jugular vein dissection that occurred during central venous catheter insertion.
13	November 2014Saudi Journal of Anaesthesia 8(4):574	Combination of Parker Flex-ITTM Stylet and McGRATH MAC for effective double lumen tube intubation.
14	December 2014Journal of Clinical Anesthesia 27(1)	The Endotrol tracheal tube using McGrath can be a viable alternative to laryngoscope intubation.
15	April 2015Saudi Journal of Anaesthesia 9(2):233-4	Capno cannula is useful for sedation management in patients undergoing esophagogastroduodenoscopy.
16	December 2014Journal of Clinical Anesthesia 27(3)	A nerve-stimulating needle coated with hard microscopic glass beads can enhance the visibility of ultrasonic images.
17	2015 Jun;27(4):363. doi: 10.1016/j.jclinane.2015.03.019. Epub 2015 Mar 21	A needle with sand-blasted steel at the tip of the bevel is valid for ultrasound-guided deep nerve block.
18	March 2015Journal of Clinical Anesthesia 27(4)	A patient-controlled analgesia device equipped with 2 flow controllers is effective for bilateral trunk nerve blocks.
19	Reg Anesth Pain Med . Jul-Aug 2015;40(4):388.	Blocking of Multiple Anterior Branches of Intercostal Nerves (Th2-6) Using a Transversus Thoracic Muscle Plane Block.
20	J Clin Anesth . 2015 Aug;27(5):428-9.	Clinical experiences of ultrasound-guided transversus thoracic muscle plane block: a clinical experience.
21	J Clin Anesth . 2016 Feb;28:79-80.	The video monitor with 2 input monitors is a useful video monitor in the intubation of a double-lumen tube.
22	Open Journal of Anesthesiology, 2016, 6, 101-104	Regardless of the Puncture Angle, a Tuohy Needle with Sand-Blasted Steel at the Tip of the Bevel is a Valid Needle on the Ultrasonic Images.

ID	Journal	Title
23	International Journal of Clinical Medicine, 2017, 8,198–203	PECS Block Provides Effective Postoperative Pain Management for Breast Cancer Surgery – A Retrospective Study.
24	Saudi J Anaesth. 2018 Jan–Mar;12(1):72–76.	Endotrol tracheal tube and McGrath Mac are an effective combination for oral tracheal intubation.
25	Anesthesiol Res Pract. 2016:4598583.	A Posterior TAP Block Provides More Effective Analgesia Than a Lateral TAP Block in Patients Undergoing Laparoscopic Gynecologic Surgery:A Retrospective Study
26	British Journal of Anaesthesia. 2017 118(3) 439–43	Addition of transversus thoracic muscle plane block to pectoral nerves block provides more effective perioperative pain relief than pectoral nerves block alone for breast cancer surgery.
27	Open Journal of Anesthesiology, 2017, 7, 351–355	Pectoral Nerves (PECS) Block Is Effective for Motor Function Recovery in the Early Postoperative Period after Breast Cancer Surgery.
28	Asian Spine J. 2017 Oct;11(5):722–725.	Efficacy of the Thoracolumbar Intermittent Plane(TLIP) Block for Lumbar Laminoplasty: A Retrospective Study.
29	Asian Spine J. 2019 Apr;13(2):254–257.	Efficacy of the Erector Spinae Plane Block for Lumbar Spinal Surgery: A Retrospective Study.
30	Open Journal of Anesthesiology, 2019, 9, 35–41	Analgesic Efficacy of Erector Spinae Plane Block in Percutaneous Nephrolithotomy
31	Reg Anesth Pain Med. 2019 Jun;44(6):632–636.	Greater analgesic effect with intermittent compared to continuous mode of lumbar plexus block for total hip arthroplasty: a randomized controlled trial.
32	Open Journal of Anesthesiology, 2019, 9, 51–56	New tympanic membrane temperature shows good correlation with the esophageal temperature.
33	J Clin Anesth. 2019 Dec;58:12–17.	Thoracolumbar interfascial plane block provides effective perioperative pain relief for patients undergoing lumbar spinal surgery; a prospective, randomized and double blinded trial.

ID	Journal	Title
34	臨床麻酔 2015; 39: 1319-20.	胸横筋膜面ブロックを使用して乳房全摘出手術を区域麻酔のみで管理できた麻酔経験
35	臨床麻酔 2015; 39: 1695-6.	腰椎椎弓形成術の術後鎮痛にTLIPブロックが奏功した1症例
36	臨床麻酔 2016; 40: 95-6.	麻酔科領域でのリドカイン・プロピトカイン配合クリームの使用経験
37	JA Clin Rep. 2016;2(1):34.	Successful Clavicle Fracture Surgery Performed Under Selective Supraclavicular Nerve Block Using the New Subclavian Approach.
38	麻酔 2018; 67: 614-6.	後方腰方形筋ブロック後に下肢筋力低下を認めた1症例
39	Am J Emerg Med. 2018 Nov;36(11): 2130.e1-2130.e2.	Continuous erector spinae plane block for pain management of an extensive burn.
40	Medicine (Baltimore). 2018 Oct;97(40):e12746.	Supra-inguinal fascia iliaca block under ultrasound guidance for perioperative analgesia during bipolar hip arthroplasty in a patient with severe cardiovascular compromise: a case report.
41	臨床麻酔 2017;41:1149-1150	腹腔鏡下子宮全摘出術におけるModified TLIP Blockの使用経験
42	臨床麻酔 2017;41:715-718	経尿道的膀胱腫瘍切除術時のメピバカイン使用量におけるランドマーク法と超音波ガイド法の比較検討
43	J Clin Anesth. 2016 Aug;32:82-3.	A touhy needle with engrave processing at the tip of the bevel is the safety needle for ultrasound-guided nerve block.
44	J Clin Anesth. 2016 Nov;34:259-60.	Ultrasound-guided thoracolumbar interfascial plane (TLIP) block: A Cadaveric Study of the Spread of Injectate.

ID	Journal	Title
45	J Clin Anesth. 2016 Aug;32:265-6.	Comparison of a Conventional Macintosh Laryngoscope with a Polio-type Laryngoscope.
46	Reg Anesth Pain Med. 2017Jan/Feb;42(1):123-124.	Similarities Between the Retrolaminar and Erector Spinae Plane Blocks.
47	J Clin Anesth. 2016 Dec;35:228-229.	Optimal Site for the Rectus Sheath Block.
48	J Clin Anesth. 2017 Feb;37:115.	Optimal Site for the Subpectoral Interfascial Plane Block.
49	J Clin Anesth. 2017 May;38:82.	Optimal Site of Administration of the PECS 1 Block.
50	J Clin Anesth. 2017 Aug;40:54.	Ultrasound-guided "lateral" thoracolumbar interfascial plane (TLIP) block: A Cadaveric Study of the Spread of Injectate.
51	J Clin Anesth. 2018 Mar;45:27-28.	Erector spinae plane block for combined mastectomy and radical mastectomy.
52	J Clin Anesth. 2019 Aug;55:69-71.	The accuracy of continuous temporal artery thermometers during general anesthesia.
53	J Clin Anesth. 2020 Mar;60:2-3.	Blocking of the saphenous and obturator nerves using a pectineus muscle plane block.
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