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13）日本製薬団体連合会：Drug Safety Update．医薬品安全対策情報，No. 321（2023 年 11 月）．https://dsu-system.jp/dsu/web/viewer.html?file=/dsu/321/321.pdf（参照 2024-12-07）．
14）厚生労働科学研究成果データベース：歯科医師の医科麻酔科研修のガイドライン改訂に関する研究．https://mhlw-grants.niph.go.jp/project/13501（参照 2024-12-07）．
15）日本歯科麻酔学会：歯科医師の医科麻酔科研修のガイドライン．https://kokuhoken.net/jdsa/unav/file/shikai-shi_kensyu_guideline_new.pdf?20240117（参照 2024-12-07）．
16）鈴木利廣：ガイドラインの法的位置づけについて（○○病院および○○大学歯学部歯科麻酔科の医科麻酔科研修に関する 2 学会合同特別調査委員会報告書（2007.8.8））．
17）日本歯科麻酔学会：令和元年度厚生労働省委託事業　歯科医師の医科麻酔科研修実施状況調査分析（2020.3.31）．https://kokuhoken.net/jdsa/project/mhlw_entrust.html（参照 2024-12-07）．
18）日本歯科麻酔学会：令和 2 年度厚生労働省委託事業　歯科医師の医科麻酔科研修実施状況調査分析（2021.3.31）．https://kokuhoken.net/jdsa/project/mhlw_entrust.html（参照 2024-12-07）．
19）厚生労働省：歯科医師の医科麻酔科研修に関する検討会報告書（2023.8.31）．https://www.mhlw.go.jp/stf/shingi/other-isei_547700_00005.html（参照 2024-12-07）．
20）厚生労働省：歯科医師臨床研修制度の改正に関するワーキンググループ報告書（2020.1.7）．https://www.mhlw.go.jp/content/000677030.pdf（参照 2024-12-07）．

Social Contribution of the Japanese Dental Society of Anesthesiology

Tokyo Dental College
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Abstract

After more than 40 years as a member of the Japanese Dental Society of Anesthesiology（JDSA）and 17 years as a board member, the author has recognized the importance of not only daily educational, research, and clinical activities, but also activities outside the JDSA（such as those involving the Japanese Association for Dental Science and the government）so as to increase the JDSA's contribution to the dental community and the public. Consequently, the author has worked to promote several issues related to the Ministry of Health, Labor and Welfare. In other words, the author decided to go beyond "contributing to the progress of dentistry and dental health care through the results of academic activities" to "bringing about valuable changes in dental health care in Japan through the results of academic activities" as his own goal. In all of these tasks, the knowledge and experiences that the author has gained through JDSA activities have played major roles. Based on these experiences, the author would like to ask not only the current board members and committee chairs and members, but also young dental anesthesiologists who will become active as key JDSA members in the future to take an interest in social contribution in the context of the JDSA's activities and to work actively and strategically to further enhance the JDSA's presence.

Keywords：ACADEMIC ACTIVITIES, SOCIAL CONTRIBUTION, MINISTRY OF HEALTH, LABOR AND WELFARE

A Case of Intravenous Sedation in a 105-year-old Patient with Lewy Body Dementia

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Abstract

Older patients with dementia often exhibit poor cooperation during dental treatment, necessitating intravenous sedation or general anesthesia. Evaluating sedation depth in patients with dementia is challenging, and deep sedation is often required to suppress body movement, posing a risk of oversedation. This report provides details of intravenous propofol sedation in a patient with Lewy body dementia.

A 105-year-old woman (weight：48 kg) required tooth extraction and oral cleaning owing to apical periodontitis. Considering her poor cooperation and communication difficulties, intravenous propofol sedation was selected. As the sedation effect was difficult to predict because of her advanced age, careful titration of propofol in small increments based on body movement was proposed. Sedation depth was assessed using the Modified Observer's Assessment of Alertness/Sedation (MOAA/S) and electroencephalogram monitoring via SedLine®.

Sedation was initiated with 7 mg of propofol, followed by additional single-bolus doses based on the Patient State Index and MOAA/S scores (total propofol：18 mg). The procedure was completed without complications, and the patient recovered from sedation to 60 min after the final dose.

In this extremely older patient, propofol sedation was selected because of its rapid onset and recovery characteristics. SedLine® allowed for continuous monitoring of brain activity, facilitating the prevention of oversedation. Despite using low-dose propofol, delayed recovery was observed, likely due to age-related changes in drug metabolism.

Although only a minimal amount of propofol was used, sufficient sedation and prolonged effects were observed. Further research is warranted to optimize sedation management in this growing population of older patients with dementia.

Keywords：LEWY BODY DEMENTIA, SEDATION, EXTREMELY OLDER PATIENT
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A Case of Hypertensive Encephalopathy Arising from Inadequate Preoperative Blood Pressure Management and Resulting in the Postponement of Surgery

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Abstract

Hypertensive encephalopathy is a life-threatening condition caused by a sudden rise in blood pressure, leading to the failure of cerebral autoregulation and vasogenic edema. Proper preoperative blood pressure management is essential for the prevention of perioperative complications, yet the inadequate control of hypertension remains a major cause of surgery cancellations. We report a 63-year-old man with a history of hypertension and poor medication adherence who was scheduled to undergo an elective tumor resection under general anesthesia. Despite presenting with severe hypertension (203/106 mmHg) on the day before surgery, a decision to proceed with the surgery was made under the assumption that intraoperative blood pressure control would be sufficient. Upon entering the operating room, however, the patient developed dizziness, tremors, and impaired consciousness, and a hypertensive crisis (277/131 mmHg) occurred. The surgery was canceled, and he was transferred to the ICU for blood pressure stabilization. A neurological evaluation confirmed hypertensive encephalopathy, and MRI findings suggested a high risk of cerebral hemorrhage. After aggressive antihypertensive therapy, his condition stabilized; he was scheduled to undergo surgery three months later. This case underscores the importance of early therapeutic intervention in hypertensive patients undergoing elective surgery. An over-reliance on intraoperative blood pressure control can lead to severe complications. Strict adherence to antihypertensive therapy, a comprehensive preoperative evaluation, and interdisciplinary communication are crucial for preventing similar incidents and for ensuring patient safety.

Keywords: HYPERTENSIVE ENCEPHALOPATHY, PREOPERATIVE BLOOD PRESSURE MANAGEMENT, MEDICATION ADHERENCE, EARLY THERAPEUTIC INTERVENTION
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きなかった予期せぬリークが発生する可能性があることが明らかとなった．エクスパンダブル式の患者呼吸回路は状況に応じて長さの調節が可能なため使用しやすく，今後も使用頻度は高いと思われるが，部分的にでも回路が縮小した状態では亀裂などの初期不良があった場合に検出ができない可能性があるため，リークテスト時には完全に回路を伸長した状態で行うことが推奨される．さらに当院では，患者就眠直前に自発呼吸下でマスクフィットを確認し，カプノグラムが描出されることを確認してから麻酔導入を行うこととした．麻酔薬投与前の酸素投与時に最終確認を行うことにより，リークテスト終了後の患者呼吸回路のリークや，患者呼吸回路接続部の脱離，サンプリングチューブの接続不良，マスクフィット不良などによる予期せぬ換気困難のリスクを減少させる[1]ことができると考えられる．

V．結　　語

今回，麻酔器の始業点検を行ったにもかかわらず麻酔導入後に患者呼吸回路の破損が明らかとなった症例を経験した．慎重に術前の準備を行っても予期せぬトラブルが生じる可能性があることを常に念頭に置き，対策について常にシミュレーションしておく必要がある．また本症例のようにエクスパンダブル式の患者呼吸回路を使用する際は，術前の始業点検時には回路を伸ばした状態でリークテストを行うことが推奨される．

本症例の報告に際し，患者から書面による同意を得た．
本論文に関連して開示すべき利益相反はない．

文　　献

1）日本麻酔科学会：麻酔器の始業点検（改訂第 6 版-3），日本麻酔科学会．2022-10，https://anesth.or.jp/files/pdf/guideline_checkout_20221117.pdf（参照 2024-12-06）
2）安本幸正，田中　裕，京極伸介，幅下貞美，唐島孝影ほか：本院における麻酔関連のインシデント・アクシデント報告の分析．日臨麻会誌，2012；32(7)：980-984.
3）Cooper JB：Toward prevention of anesthetic mishaps. Int Anesthesiol Clin, 1984；22(2)：167-184.
4）金谷明浩，山内正憲，江島　豊：本邦における麻酔器トラブル事例の検討．蘇生，2015；34(2)：94-97.
5）菅原真哉，風間富栄：麻酔器におけるリスクマネジメント．医器学，2007；77(9)：545-552.
6）釘宮豊城：麻酔器と人工呼吸器の安全対策と保守管理．医器学，1986；56(7)：344-347.
7）Plaud B, Baillard C, Bourgain JL, Bouroche G, Desplanque L, et al.：Guidelines on muscle relaxants and reversal in anaesthesia. Anaesth Crit Care Pain Med, 2020；39(1)：125-142.

Undetected Breathing Circuit Defect：A Case Report

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Abstract

Examining the anesthesia machine prior to administering general anesthesia is an essential procedure. Newer electronic machines have a computerized safety check that allows for the detection of most defects prior to use. However, breaks in the breathing circuit that go undetected during a leak test can lead to unexpected ventilation failures. In cases of ventilation failure during anesthesia, the respiratory circuit is usually replaced. Such requirements can expose the patient to life-threatening hypoxemia during the exchange of the circuit system. This report presents a case in which a leak test did not detect a defect in the breathing circuit, highlighting the need for vigilance and for additional safety measures in anesthesia practice.

Keywords：SAFETY CHECK PROCEDURES FOR ANESTHESIA APPARATUS, PRE-EXISTING DAMAGE TO RESPIRATORY CIRCUIT, AIRWAY RISK MANAGEMENT
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Two Instances of Manufacturing Defects in Venous Indwelling Needles

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Abstract

Intravenous indwelling needles are widely used in intravenous sedation and perioperative management for general anesthesia. We report two cases in which cracks were observed near the hub of indwelling needles. The first patient was a 47-year-old woman with dental phobia who was scheduled to receive dental treatment under intravenous sedation. Peripheral intravenous access was secured using the BD Insyte™ Autoguard™ BC Pro 24G, manufactured by Becton, Dickinson and Company. Immediately after initiating the infusion, fluid leakage was observed near the connection between the intravenous needle and the IV circuit. The intravenous needle was removed, and another intravenous needle was used to resecure the venous access. The second patient was a 39-year-old woman who was scheduled to undergo an intramaxillary foreign body removal after sagittal splitting of the mandibular ramus under intravenous sedation. An intravenous line was established using the above-mentioned product from the same company and an infusion was initiated；immediately afterwards, however, the infusion began to leak from the indwelling needle. In both cases, the intravenous access was resecured, and intravenous sedation was performed without any subsequent problems. When the removed indwelling needles were examined, cracks were found near the hub of the indwelling needles in both cases. Safety inspections are necessary before using medical devices, but unexpected problems can occur. In such cases, both early problem recognition and appropriate responses are necessary.

Keywords：INTRAVENOUS SEDATION, VENOUS INDWELLING NEEDLE, SECURING INTRAVENOUS LINE
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Postoperative Pain and Airway Management in Oral Cancer Patient Undergoing Photoimmunotherapy

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Abstract

Head and neck photoimmunotherapy is a novel treatment for the local control of head and neck carcinoma that utilizes cetuximab sarotalocan-sodium (Akalux®) and a laser system to target tumor cells selectively. Photoimmunotherapy has been associated with severe pain during laser irradiation and during the postoperative period, along with tongue swelling and laryngeal edema following surgery. We attempted to manage postoperative pain and airway complications in a patient who underwent photoimmunotherapy for recurrent maxillary gingival cancer. Akalux® was administered intravenously on the day before the surgery. Anesthesia was maintained with sevoflurane, intravenous remifentanil, and fentanyl. Following a tracheostomy, intravenous patient-controlled analgesia (IV-PCA) with fentanyl (20 μg/h, bolus dose of 10 μg, lockout time of 20 minutes) was initiated. Infiltration anesthesia with 1.5 mL of 2% lidocaine was applied, followed by a needle puncture for irradiation. During the surgery, the patient received 1,000 mg of acetaminophen and 50 mg of flurbiprofen axetil intravenously, followed by infiltration anesthesia with 4 mL of 0.75% ropivacaine. The NRS score upon ICU admission was 5, but the score decreased to 1 after six hours of IV-PCA. IV-PCA was discontinued on POD 1, and pain management was switched to flurbiprofen axetil and acetaminophen. Since the NRS score remained below 2, we considered this multimodal approach to analgesia to have been effective. Additionally, Akalux® has been reported to cause significant tongue swelling and laryngeal edema postoperatively. In the presently reported case, a prophylactic tracheotomy successfully prevented airway complications after surgery. Multimodal pain management was effective for managing postoperative pain in a patient with oral cancer who underwent photoimmunotherapy.

Keywords：PHOTOIMMUNOTHERAPY, MULTIMODAL ANALGESIA, AKALUX®, POSTOPERATIVE PAIN MANAGEMENT, AIRWAY MANAGEMENT
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et al.：An EAPCI expert consensus document on ischaemia with non-obstructive coronary arteries in collaboration with European Society of Cardiology Working Group on Coronary Pathophysiology & Microcirculation Endorsed by Coronary Vasomotor Disorders International Study Group. Eur Heart J, 2020；41(37)：3504–3520.
15) Russo G, Franco AD, Lamendola P, Tarzia P, Nerla R, et al.：Lack of effect of nitrates on exercise stress test results in patients with microvascular angina. Cardiovasc Drugs Ther, 2013；27(3)：229–234.
16) Ito T, Utsumi N, Baba Y, Matsumura T, Wakita R, et al.：Considerations for satisfactory sedation during dental implant surgery. J Pers Med, 2023；13(3)：461.
17) Girdler NM, Smith DG：Prevalence of emergency events in British dental practice and emergency management skills of British dentists. Resuscitation, 1999；41(2)：159–167.
18) Gragasin FS, Bourque SL, Davidge ST：Propofol increases vascular relaxation in aging rats chronically treated with the angiotensin-converting enzyme inhibitor Captopril. Anesth Analg, 2013；116(4)：775–783.
19) Rahman H, Scannell CM, Demir OM, Ryan M, McConkey H, et al.：High-resolution cardiac magnetic resonance imaging techniques for the identification of coronary microvascular dysfunction. JACC Cardiovasc Imaging, 2021；14(5)：978–986.
20) Odaka Y, Takahashi J, Tsuburaya R, Nishimiya K, Hao K, et al.：Plasma concentration of serotonin is a novel biomarker for coronary microvascular dysfunction in patients with suspected angina and unobstructive coronary arteries. Eur Heart J, 2017；38(7)：489–496.

A Case of Microvascular Angina（MVA）Diagnosed following an Episode of Chest Pain during Dental Treatment under Intravenous Sedation

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Abstract

Microvascular angina（MVA）is caused by structural and functional abnormalities in microvascular coronary arteries smaller than 100 μm；it is also known as coronary microvascular dysfunction（CMD）. These abnormalities are difficult to visualize using coronary angiography, making the diagnosis of MVA challenging. We report a case of MVA that was diagnosed after the occurrence of chest pains during dental treatment under intravenous sedation. The patient was a 58-year-old man（height：165 cm, weight：60 kg, BMI：22.0）with a history of a hyperactive gag reflex requiring intravenous sedation for dental treatment. Three years earlier, he had experienced chest pain during dental treatment, but a coronary spasm provocation test was negative and CMD was not evaluated. On the day of the presently reported treatment, the patient had stable vital signs. Propofol sedation and local anesthesia were administered. Shortly thereafter, he experienced nausea, convulsions, dizziness, and chest pain. The sedation was stopped, and the administration of sublingual nitroglycerin resolved his symptoms. He was transferred to the emergency room. A coronary angiography revealed no significant stenosis, and a coronary spasm was ruled out. An evaluation of coronary microvascular function showed a coronary flow reserve（CFR）of 2.3, an index of microvascular resistance（IMR）of 28, and a fractional flow reserve（FFR）of 0.91/0.91, leading to a diagnosis of MVA. This case highlights the need to consider MVA in patients with unexplained chest pain. Assessing coronary microvascular function is crucial for avoiding missed diagnoses and ensuring appropriate management.

Keywords：MICROVASCULAR ANGINA, CORONARY MICROVASCULAR DYSFUNCTION, MYOCARDIAL ISCHEMIA, ISCHEMIA WITH NON-OBSTRUCTIVE CORONARY ARTERY, INTRAVENOUS SEDATION
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Perioperative Management of Two Cases with Multiple System Atrophy

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Abstract

Multiple system atrophy（MSA）is a neural degenerative disease, mainly of the cerebellar-extrapyramidal tract-autonomic nervous system. Complications of perioperative management include cyclical fluctuations due to autonomic dysfunction, upper airway obstruction due to vocal cord paralysis, and prolonged effects of muscle relaxants. We encountered two cases of general anesthesia in patients with MSA with different clinical findings. Case 1 involved a 79-year-old man scheduled for implant removal. He had been diagnosed with MSA 6 years previously and had recurrent fainting spells due to orthostatic hypotension. During anesthesia induction, transient hypotension was observed；however, no excessive hypotension due to the vasopressor was observed intraoperatively. After surgery, sugammadex was administered, and the patient was extubated.

Case 2 involved a 65-year-old man who was scheduled for epulis resection and extraction. Preoperative otolaryngological examination revealed asymmetry in vocal fold movement. After the surgery, sugammadex was administered and sufficient spontaneous respiration was confirmed. The patient was extubated and it was confirmed that there was no limitation of vocal cord movement. Both two patients were discharged with no problems.

It is estimated that approximately 12，000 individuals in Japan are affected by MSA, and it is anticipated that the disease will emerge as a clinical concern in the future.

Patients with MSA have various symptoms that differ with individuals；therefore, it is necessary to accurately assess a patient's general condition through detailed interviews and anesthesia planning.

Keywords：MULTIPLE SYSTEM ATROPHY, GENERAL ANESTHESIA, LOCAL ANESTHESIA, AIRWAY MANAGEMENT, ORTHOSTATIC HYPOTENSION

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General Anesthesia Management in a Patient with Spinal Muscular Atrophy Using Multisite Neuromuscular Monitoring

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Abstract

Spinal muscular atrophy (SMA) is a progressive motor neuron disease characterized by the degeneration of anterior horn cells in the spinal cord. Anesthetic management in patients with SMA presents challenges such as respiratory muscle weakness and heightened sensitivity to muscle relaxants. This study reports a case of general anesthesia management in a patient with type II SMA.

A 22-year-old woman underwent wisdom tooth extraction under general anesthesia. Neuromuscular monitoring was performed at two sites：the ulnar nerve-abductor digiti minimi and the facial nerve-corrugator supercilii. Following administration of 10 mg rocuronium bromide, the train-of-four count (TOFc) was 0 at the abductor digiti minimi, while the corrugator supercilii maintained a TOFc of 4. However, sufficient muscle relaxation was achieved to allow successful nasal intubation. Postoperatively, the neuromuscular blockade was reversed with sugammadex sodium, and the patient recovered and was extubated without complications.

In general anesthesia for SMA patients, the ulnar nerve-abductor digiti minimi demonstrates higher sensitivity to muscle relaxants compared to the facial nerve-corrugator supercilii. Monitoring the ulnar nerve-abductor digiti minimi may offer a more reliable assessment of the optimal timing for intubation. The reversal of neuromuscular blockade with sugammadex sodium is effective；however, extubation should be carefully assessed using both neuromuscular monitoring and clinical indicators, such as adequate ventilation volume, to ensure a comprehensive evaluation.

Keywords：SPINAL MUSCULAR ATROPHY, NEUROMUSCULAR MONITORING, CORRUGATOR SUPERCILII MUSCLE, ABDUCTOR DIGITI MINIMI MUSCLE

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13）Walega DR, Smith C, Epstein JB：Bilateral stellate ganglion blockade for recalcitrant oral pain from Burning Mouth Syndrome：A case report. J Oral Facial Pain Headache, 2014；28(2)：171-175.
14）椎葉俊司，河端和音，左合徹平，布巻昌仁，坂本和美：ケタミンの静脈内投与が有効であった口腔顔面領域の慢性疼痛の3症例．口腔顔面痛学会雑誌，2021；13(1)：91-95.
15）日本ペインクリニック学会がん性痛に対するインターベンショナル治療ガイドライン策定委員会編：第Ⅰ章代表的なインターベンショナル治療　3-2 三叉神経節ブロック：施行法．がん性痛に対するインターベンショナル治療ガイドライン（第1版），真興交易医書出版部，2014；31-32.
16）長沼芳和：三叉神経痛におけるカルバマゼピン療法の現状．日本ペインクリニック学会誌，2019；26(1)：67-69.
17）Zaccara G, Perucca E：Interactions between antiepileptic drugs, and between antiepileptic drugs and other drugs. Epileptic Disord, 2014；16(4)：409-431.
18）左合徹平，安藤瑛香，椎葉俊司：末梢枝への反復ブロックで疼痛コントロールした舌咽神経痛の症例．日歯麻誌，2024；16(1)：55-58.
19）日本神経治療学会治療指針作成委員会編：標準神経治療：三叉神経痛Ⅳ　三叉神経痛の神経ブロック療法．神経治療，2010；27(1)：119-122.
20）原　節宏：咀嚼筋痛の病態生理と治療戦略―安静から運動へ―．日顎誌，2020；32(3)：121-130.
21）左合徹平，河端和音，椎葉俊司：咬筋の筋痛にエコーガイド下筋膜リリース注射が有効であった症例．口腔顔面痛学会雑誌，2018；11(1)：49-53.
22）森本昌宏，白井　達：ペインクリニックにおける神経ブロック療法　トリガーポイントブロック．日臨麻会誌，2014；34(7)：947-951.

Therapeutic Nerve Blocks in Orofacial Region

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Abstract

Nerve blocks involve the insertion of a needle into a peripheral nerve or nerve trunk to block nerve conduction using local anesthetics, neurolytic agents, or radiofrequency thermocoagulation and can have either temporary or long-term effects. This review covers stellate ganglion block (SGB), trigeminal nerve block (TNB), and trigger point injections (TPI), all of which are nerve block therapies frequently performed at the Department of Pain Clinic at Kyushu Dental University Hospital.

SGB is used not only for painful conditions involving sympathetic nerve hyperactivity, but also for paralytic conditions such as trigeminal neuropathy and facial nerve palsy. SGB is also effective for treating neuroplastic pain. Importantly, SGB must be performed under ultrasound guidance to avoid complications.

TNB is often performed when pain relief is not achieved even after microvascular decompression (MVD) or gamma knife surgery. A block needle is inserted into the nerve trunk, and nerve conduction is blocked using a neurolytic agent and radiofrequency thermocoagulation. The nerve foramen is clearly identified under ultrasound guidance and fluoroscopy.

TPI is used to treatment myofascial pain and involves the injection of a local anesthetic into a trigger point to break vicious pain cycles and provide pain relief. If fascia involvement, in addition to myofascial pain, is recognized, myofascial release (MFR) is often used in combination with TPI. MFR releases the conglutination of fascia and the muscle body using an injection of saline or local anesthetics into stacking facia. Both procedures are performed under ultrasound guidance.

Keywords：OROFACIAL PAIN, STELLATE GANGLION BLOCK, NOCIPLASTIC PAIN, TRIGEMINAL NERVE BLOCK, TRIGGER POINT INJECTION, ULTRASOUND GUIDANCE

implication and review. Folia Med Cracov, 2013；53(1)：79-85.
6）Preziosi BD, Hershkin AT, Seider PJ, Casey GM：Oral & maxillofacial regional anesthesia. https://www.nysora.com/topics/regional-anesthesia-for-specific-surgical-procedures/head-and-neck/maxillofacial/oral-maxillofacial-regional-anesthesia/
7）Oiwa D, Kumita S, Chaki T, Ono S：Mouth-opener technique for ultrasound-guided inferior alveolar nerve block：A case series of extraction of impacted mandibular third molars. Cureus, 2023；15(8)：e44179.
8）Kumita S, Sawada A, Tokura TA, Nishiyama K, Oiwa D, et al.：Injectate spread in ultrasound-guided inferior alveolar nerve block：A cadaveric study. J Anesth, 2022；36(1)：46-51.
9）Esquerré T, Mure M, Minville V, Prevost A, Lauwers F, et al.：Bilateral ultrasound-guided maxillary and mandibular combined nerves block reduces morphine consumption after double-jaw orthognathic surgery：A randomized controlled trial. Reg Anesth Pain Med, 2024；rapm-2024-105497.
10）日本麻酔科学会：局所麻酔薬中毒への対応プラクティカルガイド．https://anesth.or.jp/files/pdf/practical_localanesthesia.pdf
11）Neal JM, Barrington MJ, Brull R, Hadzic A, Hebl JR, et al.：The second ASRA practice advisory on neurologic complications associated with regional anesthesia and pain medicine：Executive summary 2015. Reg Anesth Pain Med, 2015；40(5)：401-430.

An Innovative Analgesic Approach to Oral and Maxillofacial Surgery：Ultrasound-guided Maxillary and Mandibular Nerve Blocks

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Abstract

Oral and maxillofacial surgeries are often associated with severe pain and complications postoperatively. Postoperative analgesia for highly invasive procedures commonly involves continuous intravenous opioid infusion. However, increased opioid dosage elevates the risk of life-threatening complications. Therefore, analgesic methods that reduce opioid dosage are desirable. In modern times, multimodal analgesia, including ultrasound-guided nerve blocks, is recommended to ensure safe and effective postoperative pain management in many surgical procedures. In oral and maxillofacial surgeries, ultrasound-guided maxillary and mandibular nerve blocks have recently attracted attention as effective analgesic methods. Some research indicates that these techniques effectively reduce postoperative pain scores and opioid consumption. This article will examine the technical aspects of ultrasound-guided nerve blocks and consider their potential as a foundation for multimodal analgesia, drawing on research evaluating the effective range of ultrasound-guided alveolar nerve blocks using cadavers in search of safer and more efficient methods.

Keywords：ORAL AND MAXILLOFACIAL SURGERY, POSTOPERATIVE ANALGESIA, ULTRASOUND-GUIDED NERVE BLOCK

The "Act on Promotion of Dental and Oral Health" and Initiatives of Local Health Government in Japan

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Abstract

The "Act on Promotion of Dental and Oral Health," enacted in August 2011, aims to comprehensively advance initiatives to maintain oral health through the prevention of dental diseases, thereby contributing to the improvement of public health. Following its enactment, local governments across Japan began establishing ordinances related to dental health, and Saitama City established its own ordinance in December 2012.

The Act and ordinance specify that municipalities must implement measures to enable individuals with disabilities to access dental care ; as a result, Saitama City has decided to establish a "Saitama City Oral Health Center" (tentative name). Additionally, measures to prevent dental diseases during pregnancy and to maintain and improve oral functions in older adults were also specified, leading the city to launch new dental health checkups for pregnant women and elderly individuals aged 71 years and above.

While various dental health initiatives, such as life stage-based dental checkups, have previously been implemented based on various legal grounds, the establishment of the basic Act on Dental and Oral Health and the corresponding ordinances following discussions in the National and Local Legislatures have strengthened dental and oral health measures led by local governments, improving the accessibility of these services to residents.

Keywords：ACT ON PROMOTION OF DENTAL AND ORAL HEALTH, ORDINANCE, DENTAL CARE, DENTAL CHECKUP