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Original Article

Usage Status and Regional Variations of Acupotomy in a Korean Medicine Clinic: A Single-Center, Retrospective Analysis of Medical Records

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ABSTRACT

Background: Acupotomy is a type of acupuncture where a scalpel-shaped needle (miniscalpel needle) is used instead of a normal acupuncture needle to exfoliate adhesion sites or to relax entrapped regions. This study aimed to identify the descriptive characteristics of patients who received acupotomy treatment at a single Korean Medicine Clinic.

Methods: This retrospective review analyzed the medical charts of patients who had received acupotomy at least once from August 2017 to December 2019 at a single Korean Medicine Clinic. The demographic characteristics, chief complaints, acupotomy treatment sites, and principal diagnosis codes were analyzed.

Results: We identified 551 outpatients; the average age was 52 ± 14.26 years and 49.9% were male. The patients underwent an average of 8.47 sessions of acupotomy. Altogether, 35.91% of the acupotomy treatments were administered to the spinal regions, of which 60.01% were in the lumbar region. The codes related to the lumbar spinal condition/disease which were used most frequently. The chief complaints were dizziness, lumbar spinal stenosis, and Dupuytren's contracture in patients over 60 years of age.

Conclusion: This is the 1st analysis of acupotomy treatment patterns in Korea to date. Acupotomy is primarily administered in the treatment of spinal conditions/diseases, especially for those involving the lumbar region. Future studies are necessary to determine the clinical outcomes of patients who receive acupotomy treatment and the safety of this treatment.

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Introduction

Acupotomy is a type of acupuncture where a scalpel-shaped needle (miniscalpel needle) is used to exfoliate adhesion sites or relax entrapment regions. This miniscalpel-shaped needle is called "Chimdo" in Korean, which means "blade-shaped acupuncture" [1]. Acupotomy is administered for various conditions/diseases, including those which are musculoskeletal, neurological, or metabolic in nature [2-4]. In China, several retrospective medical record analyses of acupotomy usage have been conducted to determine the therapeutic effects of acupotomy, and to identify the conditions/diseases that are primarily treated with acupotomy procedures [5,6]. The study by Ai et al [5] showed that in a single hospital's orthopedic clinic, the application of acupotomy for treating spinal conditions/diseases such as disc herniation, was 1.5 times higher than for joint conditions/diseases. A review of the research trends of acupotomy showed that lumbar conditions/diseases had the highest number of reports of treatment, followed by cervical, ankle, and shoulder conditions/diseases [7]. The number of studies on acupotomy has increased. It was reported in 2010 by Zhang et al [8], that the number of published acupotomy studies increased from 7 in 1989 to 1,880 in 2006. However, few studies have attempted to determine the range of applicability of acupotomy and the characteristics of patients who have undergone acupotomy. In this regard, we report the current status of acupotomy treatment at a single Korean Medicine Clinic in Korea and the patients' condition/disease codes used from August 2017 to December 2019. This descriptive study examined the demographic characteristics, frequency of acupotomy, and disease codes of patients.

Materials and Methods

Study design

This study was a retrospective review of the medical charts of patients who had received acupotomy treatment at least once at a single Korean Medicine Clinic (Daemyung Korean Medicine Clinic) from August 2017 to December 2019. This clinic is located in Seoul and specializes in acupotomy.

Participants and recruitment

A total of 551 outpatients who visited the Daemyung Korean Medicine Clinic from August 2017 to December 2019 were treated with acupotomy. The Korean Medicine Clinic has been providing acupotomy since 2006, and an average of 15-20 patients visit daily to receive acupotomy. The data of these patients were analyzed retrospectively to identify the treatment regions and chief complaints. The patients' diagnosis codes based on the Korean Standard Classification of Diseases (KCD) were also collected.

Variables

Researchers collected demographic data including gender, date of birth, age, and the number of treatment sessions. Clinical data, such as chief complaints, acupotomy treatment sites, and principal diagnosis codes (KCD code) were further analyzed.

Statistical analysis

Descriptive statistical analysis was conducted. Continuous data were calculated as averages and standard deviations. Categorical data were presented as frequencies and percentages. All statistical data were analyzed using SPSS for Windows Version 20.0 after data coding.

Ethical considerations

This study obtained an institutional review board exemption from Wonkwang University. For this review exemption, this study did not require the informed consent of individual patients` personal identification records.

Results

A total of 551 patients were treated with acupotomy from August 2017 to December 2019; the average age was 52 ± 14.26 years and 49.9% were male. The average number of acupotomy sessions per patient was 8.47 (Table 1). Altogether, 45.91% of the acupotomy treatments were applied to the spinal regions, of which 60.01% were in the lumbar region (Table 2). The next most common regions were the head, scalp, face, shoulder, and knee regions. Of the total number of patients, 49 (8.89%) were treated with Chuna therapy in parallel with acupotomy.

The frequency of condition/disease codes for patients receiving acupotomy treatment was similar to patients receiving Korean medicine treatments. The codes related to conditions/diseases of the lumbar spinal area were used most frequently. However, differences were observed between males and females. The 5th most frequently used code in males was the sequelae of cerebrovascular conditions/diseases which did not appear in the most frequently used code for women. However, in women, tinnitus and headache codes were observed on the 8th and 9th usage which did not appear in the most frequently used code for men (Table 3).

The mean age of the patients was 52 years; however, 32.85% were over 60 years old. The oldest patient was 84 years old. The chief complaints were dizziness, lumbar spinal stenosis, and Dupuytren's contracture. The youngest patient was 16 years old. Her chief complaint was muscle contraction in the pelvic region.

Each patient received acupotomy treatment 8.47 times on average. The patient who received the greatest number of acupotomy sessions underwent treatment 113 times for the sequelae of stroke. The 2nd highest number of sessions was 92 times, for the treatment of stroke. Of the patients, 27% received acupotomy more than 10 times, and 4% received only 1 session.

Discussion

This study aimed to report the demographic characteristics, frequency of acupotomy, and primary diagnosis of patients who received acupotomy treatment. According to previous studies

Table 1. Demographic Characteristics of Patients Treated with Acupotomy.

	N = 551	% (including individuals with missing data)
Age (y)		
< 20	2	0.36
≤ 20 < 30	45	8.17
≤ 30 < 40	62	11.25
≤ 40 < 50	100	15.12
≤ 50 < 60	161	29.22
≤ 60 < 70	123	22.32
≥ 70	58	10.53
Sex		
Male	275	49.9
Female	276	50.0
No. treatment sessions (average)		
Total	8.47	
Male	9	
Female	8	

Table 2. Treatment Region Classification by the Number of Patients.

Principle treatment region	Total (N = 551)	% (including individuals with missing data)
Lumbar	152	27.58
Cervical spinal	101	18.33
Head, scalp and facial	100	18.14
Shoulder	59	10.70
Knee joint	36	6.53
Foot and ankle	24	4.36
Buttock	19	3.45
Hand	16	2.90
Upper extremity	15	2.72
Thoracic spine	12	2.18
Lower extremity	9	1.63
Abdomen	5	0.9
Chest and rib	3	0.5

Table 3. Acupotomy Usage by Principal Diagnosis Code.

Principal diagnosis code	Total (N = 551)	% (including individuals with missing data)	Male	Female
M53.1	45	8.17	M54.12	M53.1
M54.12	40	7.26	M53.1	M47.85
M47.85	39	7.08	M47.20	M54.12
M47.20	34	6.17	M47.85	M17
M17	30	5.44	I69	M47.20
M54.17	19	3.45	M17	M54.17
M75.0	16	3.27	M54.3	M62.45
M62.45	14	2.90	M54.5	H93.1
H93.1	13	2.54	M79.18	G44
M24.25	12	2.36	M54.17	M75.0

M17, primary gonarthrosis; bilateral, M24.25; Disorder of ligament, pelvic region and thigh; M47.20, Other spondylosis with radiculopathy; multiple sites in spine, M47.85; Other spondylosis, thoracolumbar region; M53.1, Cervicobrachial syndrome; M54.12, Radiculopathy; cervical region, M54.17; Radiculopathy, lumbosacral region; M54.3, sciatica; multiple sites in spine, M54.5; Low back pain (Lumbago), M62.45; Contracture of muscle, pelvic region and thigh; M75.0, shoulder lesions; M79.18, myofascial pain syndrome; G44.0, headache Syndrome; H93.1, tinnitus; I69.0, sequelae of cerebrovascular disease.

conducted in China, acupotomy is mainly used to treat cervical spinal conditions/diseases [5,6]. In the study by Ai et al [5], 34% of patients had a cervical spinal condition/disease, 15.9% had lumbar spinal disc herniation, and 9.09% had lumbar spine stenosis. Zhang et al reported 56.41% of patients had a cervical spinal condition/disease, and 17.94% had a lumbar spinal condition/disease [6]. However, these studies had several limitations in that some studies analyzed fewer than 300 patients, and some studies were conducted before 2000. Therefore, these studies may not be applicable to Korean medicine clinics today.

The results of this study are similar to those of previous studies that analyzed the frequency of condition/disease codes for acupuncture or other Korean medicine treatments [9-11]. The study by Kim et al [9] analyzed the characteristics of patients who received acupuncture treatment in a single center and identified that 54.5% of the patients received acupuncture for a spinal condition/diseases, this was followed by acupuncture treatment for shoulder, hip, and knee pain. In the study by Lee et al [10], which also identified acupuncture and pharmacopuncture treatment patterns in a single hospital, they confirmed that acupuncture treatment was most frequently administered for lumbar spinal conditions/diseases such as intervertebral disc disorder amongst both inpatients and outpatients. In Korea, the most frequently used condition/disease code in Korean Medicine Clinics in 2017 indicated thoracic pain, followed by low back pain, myalgia, ankle sprains, and shoulder conditions/diseases [11]. Conversely, ankle conditions/diseases were lower at the 6th most frequently used condition/disease code used by the patients in this current study who had received acupotomy at least once from August 2017 to December 2019 at a single Korean Medicine Clinic.

To our knowledge, this is the 1st study to report the age distribution of patients who received acupotomy. It has been confirmed that acupotomy is frequently performed in elderly people over 60 years of age. Moreover, as reported in Chinese studies, acupotomy treatment is performed mainly in patients with spinal conditions/diseases [5,6]. The difference between the existing acupuncture treatment patterns and previous acupuncture treatment patterns is that acupotomy is used more frequently for facial, scalp, and cervical spinal conditions/diseases. Previous studies have shown that the most frequently reported conditions/disease codes in acupuncture are those denoting shoulder and knee joint conditions/diseases, followed by spinal conditions/disease [10,11]. However, according to the results of this current study, acupotomy was mainly used to treat upper cervical vertebral conditions/diseases, followed by head and scalp region and facial conditions/diseases.

This study had several limitations. Firstly, this was a descriptive, retrospective analysis study in 1 Korean Medicine Clinic in Seoul. Therefore, it did not include information on the patients' symptom improvements, and the results from this study may not be nationally applicable. Secondly, the primary diagnosis KCD codes were analyzed but did not consider the secondary codes. In this regard, further studies are needed to determine the clinical outcomes of patients who receive acupotomy treatment. It is important to determine the safety of acupotomy in elderly patients because patients over 60 years of age undergo acupotomy more frequently than those under 30 years. In the future, it is necessary to evaluate the treatment site, treatment method, and objective improvement evaluations.

Conclusion

This was the 1st analysis of acupotomy treatment patterns in Korea. Acupotomy is primarily administered for the treatment of spinal conditions/diseases, especially those involving the lumbar region. Future studies are required to determine the clinical outcome and safety of patients who receive acupotomy treatment.

Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this article.

Ethical Statement

This study exempted deliberation by the Institutional Review board of the Wonkwang University.

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