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Case Report

One-year visiting care service treatment with Korean medicine for a solitary elderly woman in a public health setting: A case report

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ABSTRACTS

In public health, the plight of the solitary elderly is associated with serious social and medical burden. In this vulnerable population, neuropsychiatric complications such as senile depression and dementia as well as chronic pain conditions often co-occur. In this case report, we present a case of an 81-year-old solitary woman who received one year of visiting care service with Korean medicine treatments in a public health setting. During the one year, her pain severity (measured using numeric rating scale) remained moderate after her initial decline and her depressive symptoms and cognitive function scales (Geriatric Depression Scale-Short Form Korean and the Korean version of the Mini-Mental State Examination for Dementia Screening) remained almost unchanged; however, another cognitive function scale (Korean version of the Montreal Cognitive Assessment) showed noticeable improvements. This case report suggests that providing visiting care services with Korean medicine may be a viable strategy for addressing the issues of the solitary elderly.

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Introduction

Globally, particularly in developed countries, aging of the population leads to many medical and social problems,¹ including an increased prevalence of neuropsychiatric disorders such as senile depression,² dementia,³ and Parkinson's disease,⁴ which represent a significant medical burden. Moreover, there exist social problems such as an increase in the number of elderly people living alone.⁵ Compared to the elderly who have abundant resources, such as social connections or financial or emotional support from family members, many solitary elderly individuals reside in places where there is not enough medical support.⁶ In addition, solitary elderly individuals have a high risk of common mental disorders such as senile depression,⁷ dementia,⁸ and chronic pain conditions,⁹ possibly due to factors such as insufficient social support, inappropriate medical compliance, and loneliness. Thus, providing social and medical care to this vulnerable population is urgently needed at the public health level.

East Asian Traditional Medicine including traditional Chinese medicine, Korean medicine (KM), and Kampo medicine have played an important role in the medical systems of Korea, China, Taiwan, and Japan.¹⁰ In Korea, KM is actively used in the public health system.

Since 1998, public KM doctors have been employed in public health centers nationwide and have provided public medical services for musculoskeletal disorders, neuropsychiatric disorders, and digestive system disorders in the community.¹¹ In addition, some health centers operate specialized KM programs to provide health services tailored to specific population groups such as pregnant women and the solitary elderly.¹¹

In this case report, we present a case of an 81-year-old solitary woman with little social interaction who received one year of visiting care service with KM treatment from December 2018 in a public health setting. When the KM treatments of body acupuncture and ear acupressure were given, along with supportive counseling, her pain severity remained moderate after an initial decline, depressive symptoms remained almost unchanged, and cognitive functions improved after initial significant improvements over the course of a year. She wanted to continue the service, but the visits were suspended due to the outbreak of the coronavirus disease 2019 in Korea in January 2020.

Case

An 81-year-old Korean woman who had undergone surgical resection for lung cancer eight years ago was in remission and had hypertension, angina, fatty liver, and hyperlipidemia. Replacement of her right knee had been performed 20 years ago. She lived in a rural village and had lived alone since losing her husband about 30 years

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ago. Among her five children, her eldest son died of acute myeloid leukemia 20 years ago and the others lived in the city. Although she was not unsocial, she was rarely involved in community activities owing to the distance from her home to the village welfare center and the presence of low back pain (LBP) and knee pain that made walking uncomfortable. She went to town only once a month by bus to take her routine medication (i.e., Bamedin Tab. 1T bid pc, Layla Tab. 1T bid pc, Klicox Cap. 200 mg 1C bid pc, Neurocover Cap. 100 mg 1C bid pc, Alcepin Tab. 1T bid pc, Crovatin Tab. 10 mg 1T qd pc, Twynsta Tab. 40/5 mg 1T qd pc). Although she was not illiterate, she lacked formal education. She did not smoke or drink alcohol, was not religious, did not exercise physically, and had no hobbies. Through the recommendation of the township office, she was selected for the visiting care service.

All visit treatments were carried out at her home by a KM doctor with six years of clinical experience. This visiting care service was offered twice a week (Monday and Thursday afternoons) and consisted of body acupuncture, ear acupressure, and supportive counseling, specifically designed for solitary elderly individuals. Body acupuncture was individualized according to the pain sites (*ashi* points) for pain relief.¹² Sterile stainless steel needles (DongBang Acupuncture, 0.30 mm × 30 mm) were used, with a retention time of 15 min, and no *de-qi* was performed. Ear acupressure was applied to unilateral *shenmen*, *kidney*, *heart*, *brain*, and *forehead* points to improve cognitive function.¹³ Sterile intradermal acupuncture needles (DongBang Acupuncture, 0.18 mm × 1.3 mm) were inserted, and she was instructed to perform self-acupressure for five sessions daily, 10 s for each acupoint per session, for a period of four to five days between visits. In the following visit, the existing needles were removed and new intradermal needles were attached to the acupuncture points on the contralateral ear. She was asked to remove the intradermal needles herself or contact the public health center if she felt severe pain, itching, tingling, or a sensation of heat in the place where the needle was attached. Thorough disinfection was performed using a disposable alcohol skin cleaner before and after acupuncture. Supportive counseling was conducted during the needle retention time to reduce depression.¹⁴ The counseling mainly involved listening to the patient's painful thoughts with a tolerant attitude and comforting her when she expressed negative emotions.

However, discussion of the painful thoughts of the patient was not forced. To assess pain, cognitive function, and depressive severity, the following scales were used: the numeric rating scale (NRS) (0–10 point); the Korean version of the Mini-Mental State Examination for Dementia Screening (MMSE-DS),¹⁵ and the Korean version of the Montreal Cognitive Assessment (MoCA-K);¹⁶ and the Geriatric Depression Scale-Short form Korean (GDS-SF-K), respectively.¹⁷ Pain assessments were performed at each visit, while the cognitive and depression assessments were performed every two months.

As it was a visiting environment where examination using medical equipment was not possible, only estimated diagnoses based on symptoms and signs were possible, except for the known diagnoses. The tools used for evaluation in this process were helpful. On the first visit, she complained of LBP, shoulder pain (bilaterally), and knee pain (bilaterally), with NRS scores of 9, 8, and 7, respectively. Her initial MMSE-DS, MoCA-K, and GDS-SF-K scores were 24, 12, and 12, respectively, which exceeded the reference score (17 points) of the MMSE-DS but were less than that (23 points) of the MoCA-K, suggesting mild-to-moderate impairment of cognitive function. In particular, her MoCA-K score was less than 17, leading to suspicion of mild cognitive impairment (MCI).¹⁸ Moreover, the GDS-SF-K score was much higher than the reference score (5 points), indicating severe depression. In the initial interviews, her severe depressive symptoms appeared to be mainly due to loneliness and rumination on her older son, who had passed away. Over the year of the visiting care service, she became increasingly likely to talk to the visiting KM doctor about her deepest sorrow.

During the first four months, overall pain intensity was greatly improved to NRS 3–4; however, with the onset of farming in the fourth month (April–May), her musculoskeletal pain deteriorated again to NRS 6–8 and then continued to decrease slightly (Fig. 1). Her MMSE-DS showed a distribution of mainly 2–26 points, with no obvious change over the year. However, her MoCA-K scores gradually increased from the initial 17 points to 23 points after one year to reach the normal range. Depression assessed by GDS-SF-K showed slight increases and decreases but no significant changes within the range of 12–14 points (Fig. 2). There were no dramatic differences in the results of the clock drawing test in the MoCA-K, but the result of the last test seemed to be the best (Fig. 3). For each domain of MoCA-K, the most consistent improvement was observed in naming and

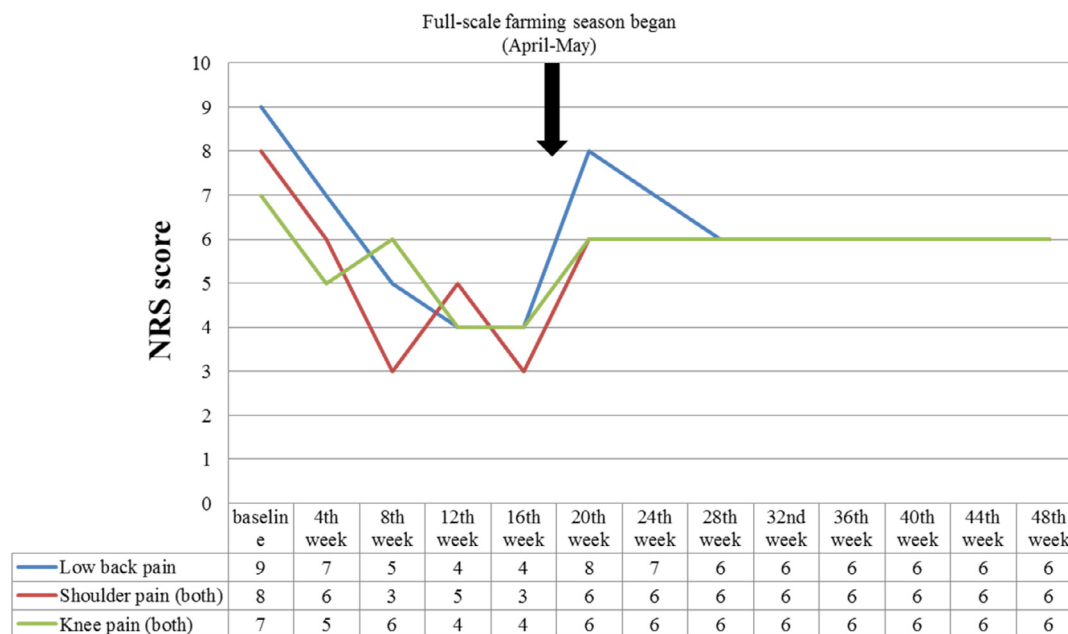


Fig. 1. Change in pain severity over a year. Abbreviation: NRS, numeric rating scale.

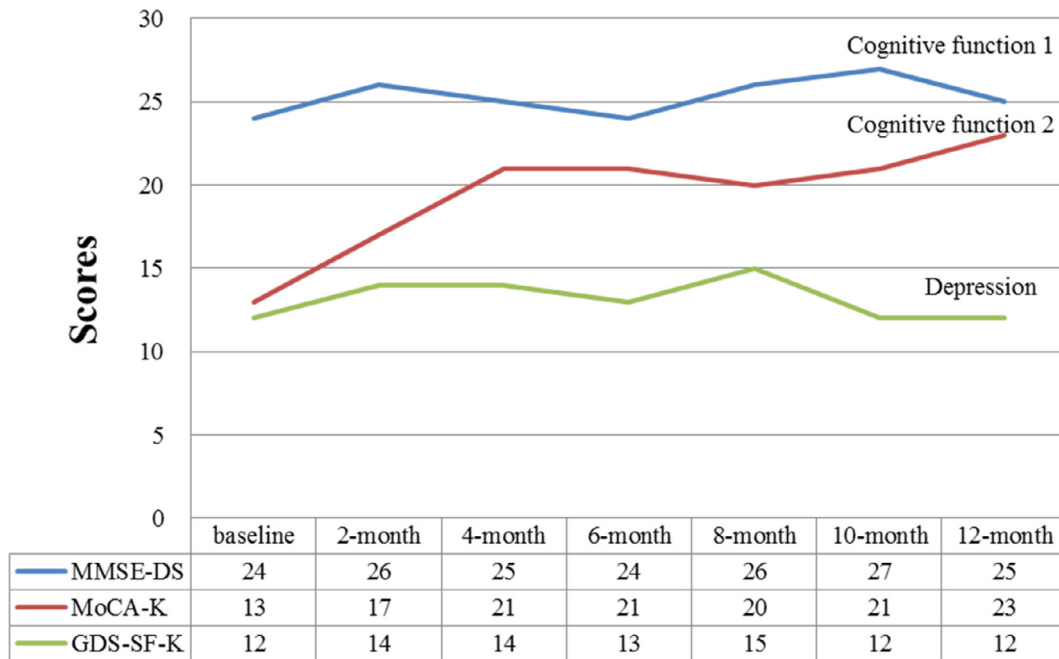


Fig. 2. Changes in cognitive function and depression severity over a year.

Abbreviation: GDS-SF-K, Geriatric Depression Scale-Short form Korean; MMSE-DS, Mini-Mental State Examination for Dementia Screening; MoCA-K, Korean version of the Montreal Cognitive Assessment.

attention (Fig. 4). In January 2020, due to the outbreak of coronavirus disease 2019 in Korea, this visiting care service was inevitably discontinued. In a phone call announcing the interruption, she told the KM doctor: “Last year, I think it was easier to do farming thanks to the acupuncture you performed. Thank you for doing better than my sons and daughters. I will never forget my time with you. Please stay healthy.”

Discussion

This case report presents the case of an 81-year-old elderly woman living alone who received 1 year of visiting care service with KM treatments. With this service, body acupuncture was used to relieve musculoskeletal pain, ear acupressure to improve cognitive

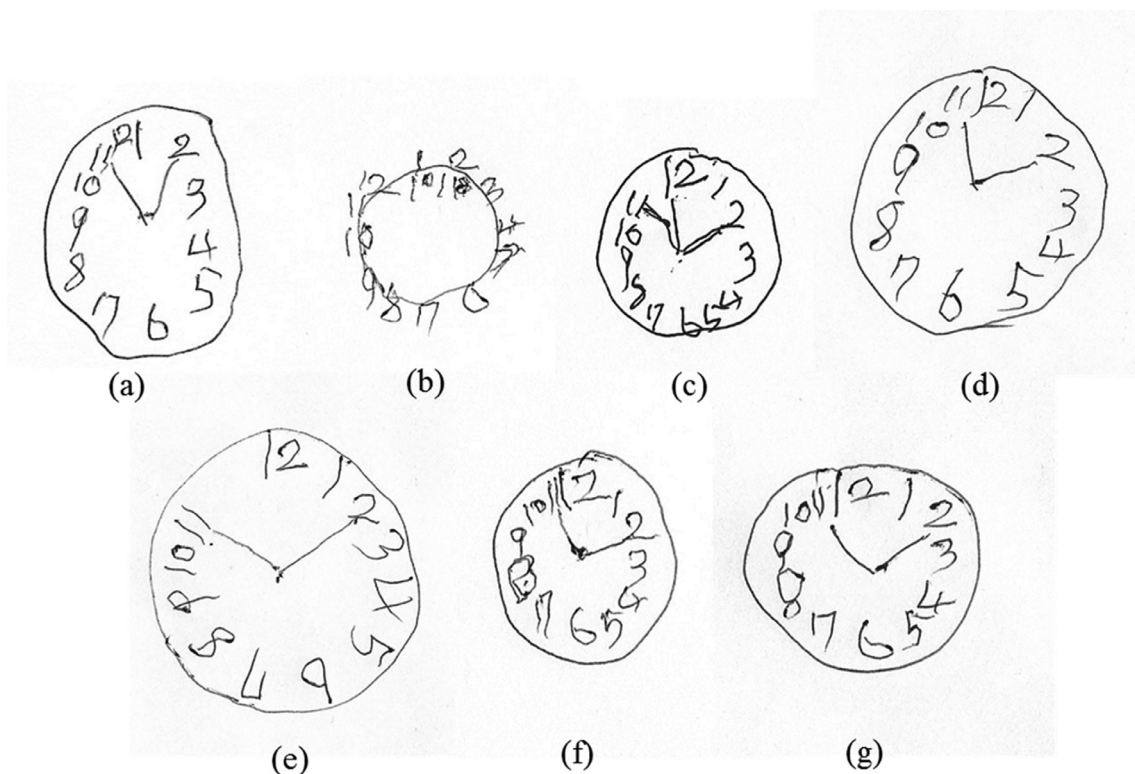


Fig. 3. Changes in the clock drawing test over a year.

Note: (a) baseline, (b) 8th week, (c) 16th week, (d) 24th week, (e) 32nd week, (f) 40th week, (g) 48th week.

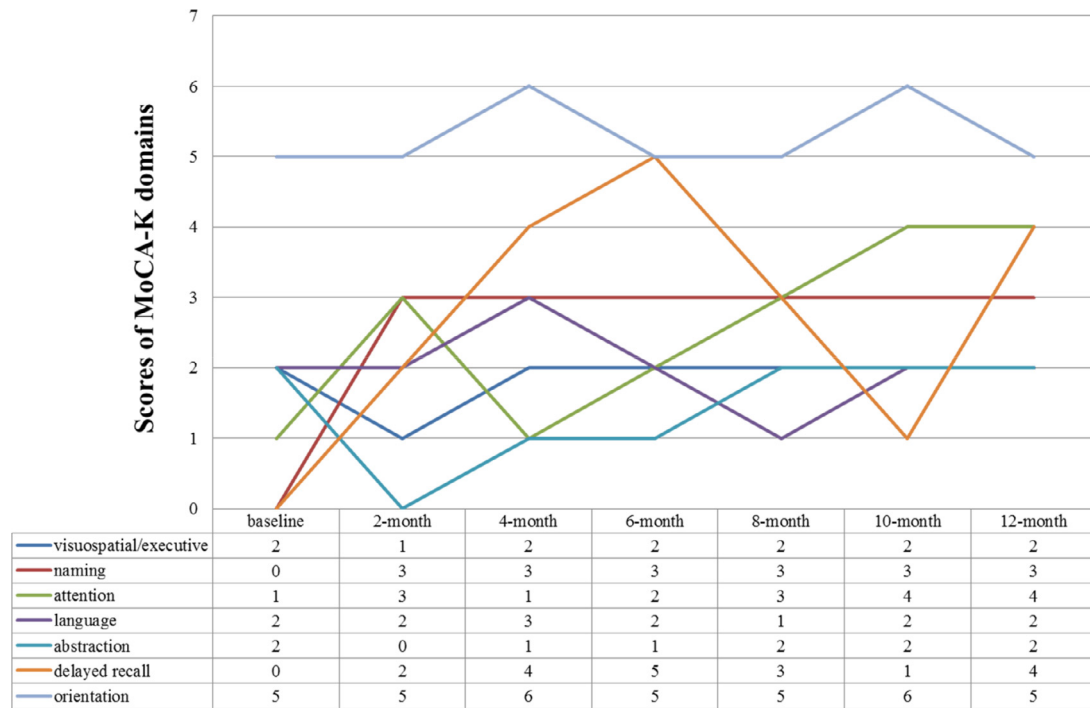


Fig 4. Score changes in each domain of MoCA-K over a year.
Abbreviation: MoCA-K, Korean version of the Montreal Cognitive Assessment.

function, and supportive counseling to improve depressive symptoms, and the visits were conducted twice a week.

Initially, the patient had severe pain intensity at the low back, shoulder (bilaterally), and knee joint (bilaterally), mild-to-moderate impairment of cognitive function, and high depressive severity. During the one-year period, her pain initially decreased, increased steeply once farming season began, and then remained moderate until the end of the service. This suggests that body acupuncture at the *ashi* points was effective for pain relief but did not reduce the degree of pain in this patient to the extent that it did not affect daily life. This is likely due to the burden of parallel farming, especially as her pain intensity increased sharply in April–May, when the farming days became busy. However, there is a possibility that the effect size of the acupuncture intervention, especially the acupuncture on *ashi* points, was small. Due to the nature of the visiting care service, additional techniques such as electrical stimulation, moxibustion, and infrared irradiation could not be applied. However, if the resources of the public health center permitted it, the use of a portable electrical stimulator, electronic moxibustion, and cupping may have increased the effect size. In addition, simple and inexpensive complementary therapies such as aromatherapy have the potential to be used to improve pain and depression.¹⁹ No noticeable changes were observed in cognitive function as assessed by the MMSE-DS or depression as assessed by the GDS-SF-K. Interestingly, however, the cognitive function assessed by the MoCA-K steadily increased and eventually reached the normal range at the final assessment. In particular, naming and attention domains showed the most consistent improvement results. Given that the MoCA is more effective at screening MCI than the MMSE and that her initial MoCA-K score was estimated at less than 17,¹⁸ the results of this case suggest that her cognitive function was between normal and dementia initially and that it was improved through the visiting care

service. The possibility of other influencing factors cannot be excluded. However, her cognitive improvement is likely to be related to the service, given that she had few social activities and did not attend dementia prevention classes conducted by the welfare center. Nevertheless, it should be acknowledged that it remains unclear whether the improvements in her cognitive function were attributable to the ear acupressure, acupuncture, the visit itself, or pain relief. Also, given that MoCA tools may be vulnerable to practice effects,²⁰ the observed positive effects of our treatment on cognitive function may still be controversial. Finally, her depressive symptoms barely changed and remained severe overall. The questions in the GDS-SF-K mainly inquire about happiness, vitality, and the meaning of life, with either yes or no answers. The KM doctor felt that the patient's depressive symptoms were alleviated over time, but since the GDS-SF-K did not detect the depth of the depressive severity, no change was observed in this index. Therefore, in future studies, while the use of the GDS-SF-K may be appropriate for in-depth psychological therapies that directly address the meaning of life or profound distress, it may be more appropriate to use other Likert scales to better assess severity in studies aimed at alleviating depressive feelings.

To conclude, we reported herein the one-year results of a visiting care service with KM treatments for a solitary elderly woman in a public health setting. Given the social and medical burdens of an aging society, the issues associated with solitary elderly individuals will become more important in advanced countries, including Korea. Many public KM doctors are already employed in public health centers, and visiting care services for the solitary elderly by KM doctors can greatly benefit the national health system. With increased assistance from public health centers, the quality and scope of the visiting service could be further improved, and governments and policy-makers should consider and support this endeavor.

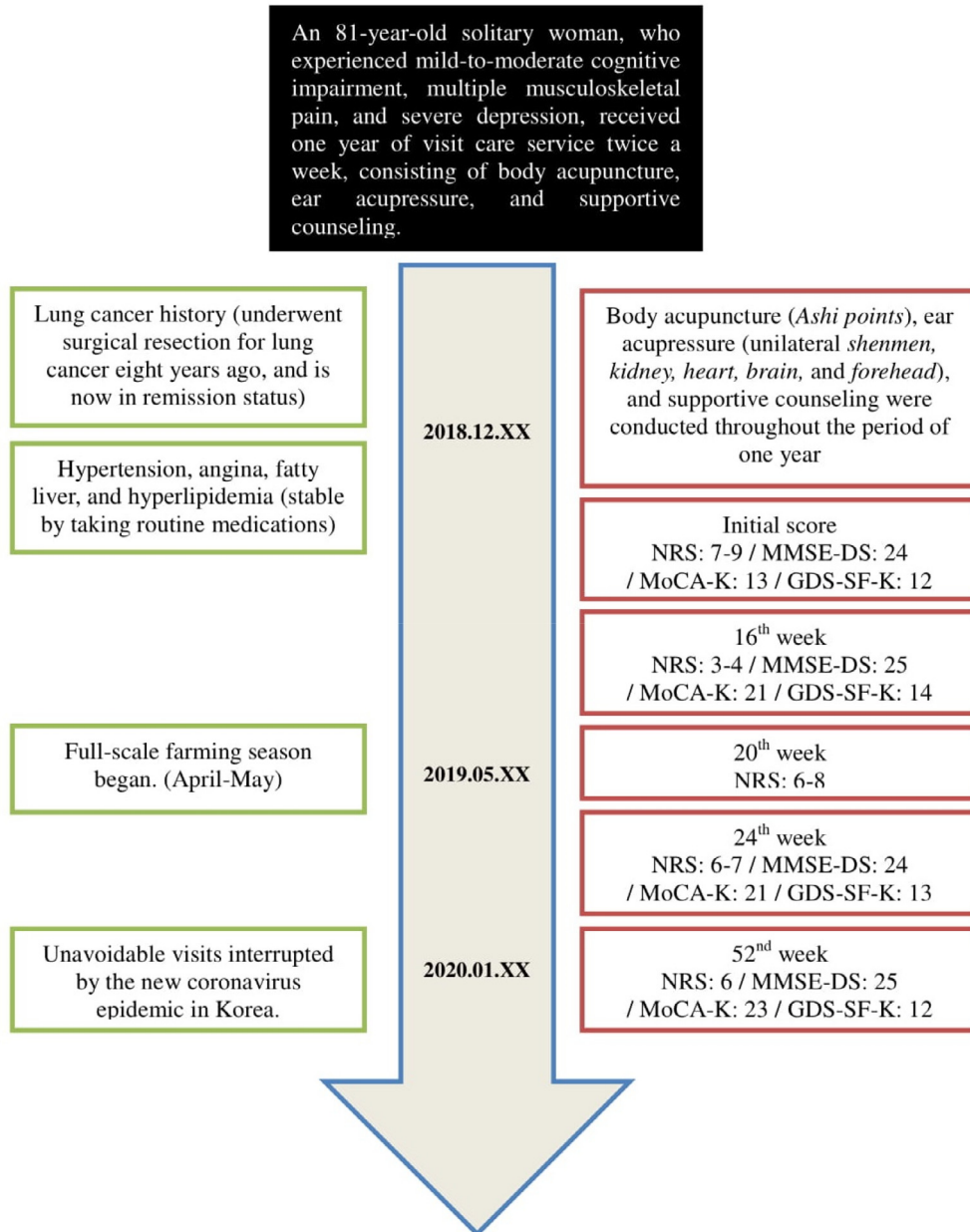


Fig 5. Timeline of this case report.

Abbreviation: GDS-SF-K, Geriatric Depression Scale-Short form Korean; MMSE-DS, Mini-Mental State Examination for Dementia Screening; MoCA-K, Korean version of the Montreal Cognitive Assessment; NRS, numeric rating scale.

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Supplementary materials

Supplementary material associated with this article can be found in the online version at doi:[10.1016/j.explore.2020.04.004](https://doi.org/10.1016/j.explore.2020.04.004).

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