



Acupoint Electrical Stimulation Preconditioning to Reduce Hemorrhoid Pain: A Case Report

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경혈 전기 자극 전처치요법을 통해 치료한 치핵 통증: 증례보고

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A 30-year-old woman with Grade III hemorrhoid complained of excruciating pain that continued for several hours, especially with defecation. She was not able to frequent the clinic due to COVID-19 shutdowns, therefore additional treatment using acupoint electrical stimulation (AES) was self-administered. She administered AES bilaterally on BL57 and LR10 for fifteen minutes before each defecation as a preconditioning treatment. She assessed her pain using a Numerical Rating Scale (NRS) during defecation, and 3 hours later. The patient initially complained of pain rating 9 on the NRS. After the first session of AES, the pain dropped to 5. On one-month follow-up, the pain was at 3 and the patient was able to terminate all treatment. Self-administered AES preconditioning at BL57 and LR10 can be used to reduce extreme cases of hemorrhoid pain.

Key words : Korean medicine, acupuncture, transcutaneous electric nerve stimulation, hemorrhoids

Introduction

Hemorrhoids are very common medical conditions, characterized by rectal bleeding, discomfort, pain, and prolapse of abnormally enlarged vascular cushions. It can be classified into internal or external hemorrhoids depending on the area that the distended blood vessels develop, and internal hemorrhoids can be further graded based on their degree of prolapse from one to four. Grade I hemorrhoids are the mildest form with presenting symptoms but no prolapse, grade II hemorrhoids have prolapse but can be spontaneously reduced, grade III hemorrhoids have prolapse that

needs to be manually replaced into the canal, and grade IV hemorrhoids have prolapse that is irreducible¹⁾.

Dietary and lifestyle modifications are encouraged throughout the treatment process, but when symptoms are severe, more invasive options are available. Popular non-surgical procedures include rubber band ligations, sclerotherapy, and photocoagulation but these treatments are known to have higher recurrence rates than surgical removals. For grade III and grade IV hemorrhoids, hemorrhoidectomy is known to be the golden standard treatment however conventional surgical treatment options are associated with post-operative pain²⁾. Although symptomatic

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hemorrhoids can be severely painful and can drastically reduce quality of life, since hemorrhoids are not life threatening, patients tend to seek less painful alternatives. Among them, acupuncture is an appealing treatment option.

There have been several case reports of acupuncture being used to treat hemorrhoids. In 2003, Chung et al. reported two cases of Grade II and Grade III hemorrhoids being treated with Saam acupuncture³⁾, and Yang et al. reported a rare case of pregnancy and delivery-induced hemorrhoids that was improved with combined treatment of acupuncture and herbs⁴⁾. Recently, Lee et al. also reported four cases of hemorrhoids successfully treated with Korean Medicine⁵⁾. However, outside of Korea or China, reports of acupuncture being used for hemorrhoids are almost non-existent. A few randomized trials have investigated its use for post-hemorrhoidectomy pain⁶⁾ but not much literature exists on acupuncture therapy being used before surgery. This may be due to cultural differences, limited access to acupuncture, or even lack of awareness. Possibly, in a setting where patients are less inclined to receive other treatment modalities other than acupuncture, acupuncture alone may be not enough to produce satisfactory results as a stand-alone treatment. Below, we report a severe case of hemorrhoid related anal pain that was relieved with standard acupuncture and additional treatment of acupoint electrical stimulation (AES) preconditioning. This is the first report of hemorrhoid pain being relieved using self-administered home-care electrical stimulation device during times of COVID-19. Written informed consent for publication of the clinical details and images have been obtained from the patient.

Case

A 30-year-old Korean-American female presented with excruciating pain inside and around the anal area that worsened after each straining during defecation. Ten years ago, she had been diagnosed with asymptomatic Grade I hemorrhoids and three years back, the enlarged vascular

channels had started to protrude when she released stool. It retracted voluntarily, meaning that it had aggravated to Grade II. She reported that she used conservative treatment methods when the symptoms got worse, such as increasing fiber rich foods in her diet, taking sitz baths, and applying topical ointments and suppositories when necessary. In January 2020, the hemorrhoids flared up but this time, it was accompanied by extreme pain that felt like “sitting on glass” every time she went to the bathroom. She recalls that in the previous weeks, she had suffered from constipation which caused her to exert excessive pressure along with prolonged sitting in the toilet.

She was receiving acupuncture treatment regularly for low back pain and on February 18th, 2020 during another regular visit to the clinic, asked the practitioner if acupuncture could also help alleviate her hemorrhoidal pain. Upon examination, her hemorrhoids were Grade III internal prolapsed hemorrhoids with signs of thrombosis. Due to the extremity of the pain and condition, she was initially advised to visit a gastroenterologist, but the patient expressed concerns due to her insurance plan and opted to try acupuncture first. Therefore, further diagnostic testing could not be done.

Upon physical examination based on Korean Medicine, she was diagnosed with “heat and dampness in the Large Intestine”. She used to enjoy cold and greasy food that included frequent fried foods and beer every day. She could not tolerate warm weather, sweated profusely on the head and neck area, and had stools that was especially hard in the beginning. Her pulse was slippery, and tongue was red with slight signs of yellow coating. Other than the above, she had unremarkable medical, family, and psychosocial history.

Her presenting chief complaint was extreme pain during defecation. During regular days, the pain was NRS 5 without any bleeding or itchiness. However, the pain surged to a level of 9 with defecation, especially during the initial push as the internal hemorrhoids prolapsed outside of the anus. Once it completely prolapsed, the pain was not as severe, but she was careful not to apply too much pressure while releasing the remaining stools. After defecation, she had to manually insert the prolapse and the pain remained for at least 3 hours

which necessitated her to lay down on her side while applying ice on the area. She reported that after 3 hours, the pain would start to subside to a level of 5 again until the next bathroom visit. She bought over the counter docusate sodium sennosides, but the anxiety caused during each bathroom visit consequently evolved into a vicious cycle of constipation.

Standard acupuncture treatment was applied on bilateral BL57, LI11, LI4, LR3 and right LI2, SI2, LI5, BL60. BL57 is a known empirical point for hemorrhoids, and LI11 is used to reduce heat and dampness in the Large Intestine while LI4 and LR3 are combination points known to help circulate qi. Points LI2, SI2, LI5, and BL60 are Saam acupuncture points that are indicated for use specifically in heat dampness of the Large Intestine. Sterilized, single-use, disposable acupuncture needles (0.25×30 mm, Dongbang, Korea) were used for each point and deqi was elicited. Points LI2, SI2 was rotated clockwise nine times every ten minutes and LI5, BL60 was rotated counterclockwise six times every ten minutes. The needles were retained for 30 minutes and then removed. This treatment was repeated every week starting from February 18th to March 17th, 2020.

During the one-month evaluation on March 17th, the patient said that the pain subsided slightly to a level of 7 during defecation, but it came back to a level of 9 usually around the fifth day post needling. She still had to lay down for 3 hours and apply ice after each maneuver. Moreover, due to the COVID-19 pandemic, the government was enforcing stay-at-home policies and limiting in-person visits to the clinic. Gastroenterology offices were also not receiving new patients. Due to the unprecedented circumstances, the patient was taught how to self-administer electrical stimulation on acupuncture points to maintain acupuncture treatment effects while increasing treatment dosage.

Acupoint electrical stimulation (AES) was done using a portable TENS machine (SH205, Shinhan, Korea). When she felt the first urge to have a bowel movement, the patient was taught to stick the rectangular carbon rubber surface pads (5 cm×5 cm) on bilateral BL57 and LR10 points for a duration of at least 15 minutes. She was told to assess her

level of pain during defecation and 3 hours after defecation. She also recorded the number of suppositories that she used during the week. She came in for regular acupuncture treatments once a month and on the next evaluation day (April 14th), the patient's pain had drastically reduced to NRS 3 both during defecation and 3 hours after passing stool. She reported that the pain dropped immediately to NRS 5 after the first session of AES and it steadily came down to NRS 3. Her use of suppositories 5 times a week had dropped to once a week by the fourth week of AES sessions. Upon examination, however, the size of the hemorrhoids were actually bigger than before (Fig. 1). There was no reports of adverse events and the patient consequently terminated all treatment since the pain was tolerable. Upon three-month follow-up via phone, she still had Grade III hemorrhoids, which she had to manually replace inside the canal, but she did not need suppositories and was almost pain-free during and after defecation (Fig. 2).

Discussion

To the best of the author's knowledge, this is the first case report illustrating the use of self-administered AES to help increase and maintain treatment effects of regular acupuncture. There have been reports of AES being administered using a TENS device, but they were done in a trial setting by trained practitioners⁷⁾. There was one report of patients being trained in self-needling to maintain acupuncture effects after therapist-delivered acupuncture, and another case of a patient being trained in applying self-electroacupuncture as well^{8,9)}. Both studies have reported positive results, concluding that self-application was a safe and cost-effective treatment method. Since puncturing the skin can expose the patient to unnecessary risks, AES was the choice of treatment in our case, especially during times of COVID-19 as medical attention could not be immediately sought if there was an adverse event.

In this case of excruciating pain due to Grade III hemorrhoids, it was important for the patient to receive treat-

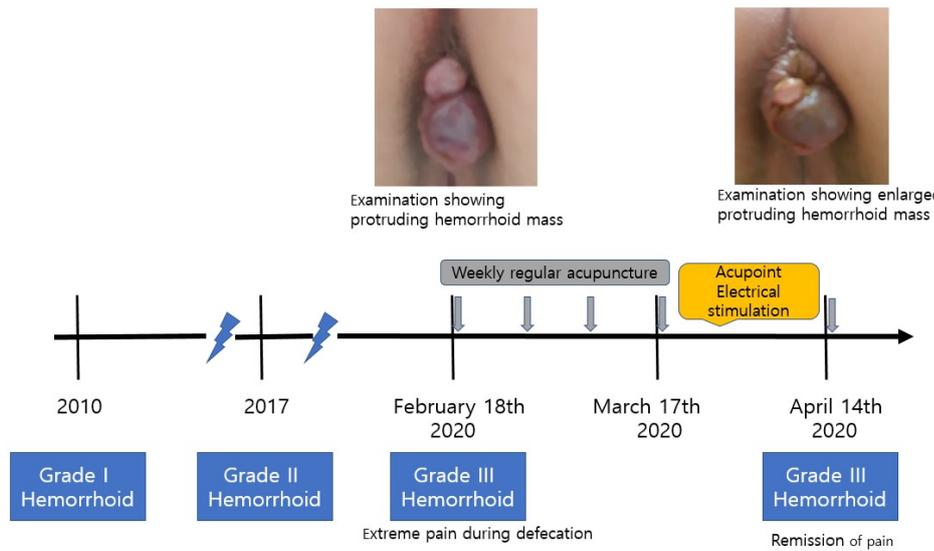


Fig. 1. Timeline of events.

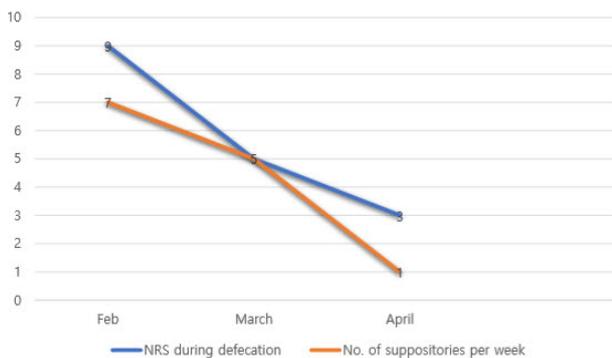


Fig. 2. Changes in numerical rating scale during defecation and the number of suppositories needed per week on first, second, and third examination.

ment before going to the bathroom. Regular acupuncture treatment once a week was producing unsatisfactory results as the effects wore off after a few days. Yet it could be postulated from the patient reports that acupuncture treatment was in fact increasing the pain threshold temporarily, albeit minimal. In order to increase the effects and maintain the dosage, EAS was introduced as an adjunctive treatment method. The purpose was to increase the pain threshold to an optimal level before defecation, thereby reaching a preconditioned state before bowel movement.

We cannot be sure whether the additional effects were merely due to the TENS application or whether it was induced by the specific effects of acupuncture during regular treatments and during electrical stimulation. The regular

treatment and EAS could have produced an increased synergistic treatment effect. However, it is noteworthy to see that in the final follow-up, the patient reported that the hemorrhoid was still Grade III and it had not shrunk in size. On the last examination, the size of the hemorrhoid was bigger although the patient's reported pain level was NRS3. Therefore, we believe that the reduction in pain was not related to the obstruction but due to inflammation. The regular acupuncture points were aimed to reduce heat and dampness in the Large Intestine which aims at inducing anti-inflammatory effects, and the EAS was aimed to increase the pain threshold. Several studies have shown that electro-acupuncture produced higher pain threshold increase than manual acupuncture¹⁰⁻¹², and EAS could have had similarly powerful effects.

It is important to note that even if there were no noticeable adverse effects of AES, any therapeutic procedure done without supervision should be avoided. Exploration of new treatment methods using new treatment modalities should be encouraged but use of home-care devices should be suggested only under strictly supervised settings. In this case, the patient was informed of the specific acupuncture points to use, when to use them, and of other precautionary measures. The practitioner was aware that the patient did not have any medical history that could have been contraindicative for treatment using an electrical stimulation machine. We do not

support the use of self-applicable medical devices administered without supervision. However, with the COVID-19 pandemic persisting for several months, it is an important time for practitioners to start exploring new treatment methods. In this case of Grade III hemorrhoid pain, EAS showed positive results, but future research is warranted.

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Data availability

The authors can provide upon reasonable request.

Conflicts of interest

The authors have declared that no conflicts of interest exists.

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