

# A Case of Metastatic Bladder Cancer in Both Lungs Treated with Korean Medicine Therapy Alone

Dong-Hyun Lee<sup>a</sup> Sung-Su Kim<sup>a</sup> Shin Seong<sup>a</sup> Chang-Ryool Woo<sup>a</sup>  
Jae-Bok Han<sup>a, b</sup>

<sup>a</sup>Soram Korean Medicine Hospital and <sup>b</sup>Department of East-West Medicine, Graduate School, Kyung Hee University, Seoul, South Korea

## Key Words

*Cordyceps sinensis* · Ginseng · Hyunamdan · Hangamdan S · Korean medicine · Metastatic bladder cancer

## Abstract

This case report is aimed to investigate the effects of Korean medicine therapy (KMT) including oral herbal medicine and herb nebulizer therapy in treating metastatic bladder cancer in the lungs. A 74-year-old man was diagnosed with metastatic bladder cancer in both lungs in August 2013. He refused any chemotherapy and was admitted to our hospital in a much progressed state on January 11, 2014. Since then, he was treated with KMT until May 17, 2014. The main oral herbal medicines were Hyunamdan made of heat-processed ginseng, Hangamdan S made of *Cordyceps militaris*, *Panax ginseng* radix, *Commiphora myrrha*, calculus bovis, margarita, *Boswellia carteri*, *Panax notoginseng* radix and *Cremastra appendiculata* tuber, and nebulizer therapy with Soram nebulizer solution made of wild ginseng and *Cordyceps sinensis* distillate. Their effect was evaluated considering the change of the main symptoms and using serial chest X-ray. The size and number of multiple metastatic nodules in both lungs were markedly decreased and the symptoms had disappeared. These results suggest that KMT can be an effective method to treat metastatic bladder cancer in the lungs.

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## Introduction

Bladder cancer is the ninth most common cancer in the world, with 430,000 new cases diagnosed in 2012. The estimated crude incidence per 100,000 persons was 9.3 in males and

Jae-Bok Han  
Soram Korean Medicine Hospital  
Samsung-dong 154-11  
Gangnam-gu, Seoul (South Korea)  
E-Mail [drhanjb@hanmail.net](mailto:drhanjb@hanmail.net)

2.8 in females, thus it was about three times more common in men compared with women [1]. The most common pathological type is transitional cell carcinoma. Depending upon the depth of invasion, it is classified as superficial when the invasion is limited to the muscularis mucosae and advanced when the invasion involves muscles or the prevesical space. The 5-year survival rate in patients with superficial low-grade tumor is as high as 85% while it is 40–45% in patients with invasive high-grade tumor [2]. Metastatic lesions were found in 68% of patients with invasive bladder cancer, and the most common sites for metastases were the lymph nodes (78%), liver (38%), lungs (36%), bone (27%), adrenal glands (21%) and intestine (13%) [3].

Recently, there have been many reports on Korean medicine therapy (KMT) to treat various kinds of cancer. However, reports on the treatment of bladder cancer with KMT are still rare.

### Case Report

A 74-year-old Korean man was admitted to our hospital on January 11, 2014 with the clinical diagnosis of metastatic bladder cancer in both lungs. In his past medical history, he had presented to a different hospital with the symptoms of frequency, dysuria and hematuria, and was diagnosed with bladder cancer through cystoscopic examination on April 24, 2013. A radical cystectomy with ileal conduit urinary diversion was done on May 10, 2013 in another medical center, and the postoperative pathologic diagnosis was transitional cell carcinoma, T3aN1Mx. On PET-CT scan images on June 22, 2013, mild heterogeneous increased FDG uptake was observed in the urethral stump and recurrence was suspected. Thus, total urethrectomy was carried out on July 17, 2013. On the follow-up CT scan image on August 29, 2013, multiple metastatic nodules were found in both lungs, and the final diagnosis was revised as stage IV bladder cancer. Conventional chemotherapy was recommended but refused by the patient for fear of the expected adverse effects of chemotherapy. He did not agree to any other therapy or examination.

The patient was admitted to our hospital on January 11, 2014 with the following symptoms: aggravating cough, sputum, hemoptysis and dyspnea. Since then, he had been on KMT, and the state of the tumor was checked with simple X-ray because he refused any further studies. Multiple metastatic nodules in both lungs were observed on the chest posterior-anterior X-ray on that day. The patient was administered the following medication: wild ginseng pharmacopuncture (WGP) 10 ml, *Cordyceps sinensis* (CS) pharmacopuncture 10 ml, *Trichosanthes kirilowii* pharmacopuncture 10 ml, *Platycodon grandiflorus* pharmacopuncture 10 ml i.v. once a week, Soramdan 1 pill, CS distillate 10 ml p.o. 4 times a week, Gunchildan 1,000 mg p.o. t.i.d., and Soram nebulizer solution 8 ml inhalation q.d. (table 1).

After a 2-month therapy with this regimen, the number and size of the nodules had increased on the chest posterior-anterior X-ray on March 13, 2014 in comparison with that on January 11, 2014. Due to the progression of the disease, the regimen was changed to Hyunamdan (HND) 4 g t.i.d., Hanganamdan S (HAD S) 1,000 mg t.i.d. and Soram nebulizer solution 8 ml inhalation q.d. and continued for a month. As a result, the number and size of the nodules had decreased in both lungs, and the shadows of the remaining nodules had faded on the X-ray image on April 10, 2014. After 1 additional month of the same treatment, most of the nodules had nearly disappeared on the chest X-ray image on May 17, 2014 (fig. 1).

## Discussion

Surgery, chemotherapy and radiotherapy compose the major therapeutic modalities for cancer treatment in the current Western medicine. Our patient with bladder cancer was treated with cystectomy first and then with urethrectomy, but the cancer recurred in the lungs. At this point, he abandoned all Western medicine therapy and chose KMT for the treatment of cancer.

Pharmacopuncture, oral herbal medicine and nebulizer therapy were used in this case. Pharmacopuncture is the injection of liquid herbal extracts to acupuncture points. The injection may be intradermal, subcutaneous, intramuscular or intravenous. Nebulizer therapy is the inhalation of liquid herbal extracts in the form of mist from a nebulizer. Oral herbal medicines consist of single or several kinds of herbs in the form of tablets, capsules or fluids. In general, pharmacopuncture solution, nebulizer solution and oral herbal distillate solution were produced through a distillation process. Briefly, a certain amount of a herb was decocted in distilled water for several hours, and the decoction was distilled to produce distillate solution which, in turn, was filtered with 0.45- and 0.2- $\mu$ m filters and sterilized in vials to be used as a final product.

*Cordyceps* distillate solution for oral intake was made of cultivated *Cordyceps militaris* through a distillation process.

Soramdan was made of wild ginseng (WG). Briefly, about 6-year-old WG 500 g was ground and mixed with honey 500 g, divided into 8-gram pills, and wrapped with gold foils.

Gunchildan was made out of several herbs. Briefly, *Rhus verniciflua* extract 18 liters and *Rehmanniae* radix crudus juice 3 liters were mixed and concentrated with mild fire. *Dioscoreae* rhizoma 3 kg and *Ulmus pumila* L. 3 kg were mixed with the concentrate. This mixture was dried at a cool temperature and then ground to be filled in 500-mg capsules (table 2).

HND was made of *Panax ginseng*. Fresh ginseng was steamed at a high pressure, at a temperature of 120°C for 3 h and dried. It was ground, mixed with honey at a ratio of 1:1, and divided into 4-gram pills.

HAD S was made of *C. militaris*, *P. ginseng* radix, *Commiphora myrrha*, calculus bovis, margarita, processed *Boswellia carteri*, processed *Panax notoginseng* radix, and processed *Cremastra appendiculata* tuber at a ratio of 3:2:2:2:2:4:4. These were ground and filled in 500-mg capsules (table 2).

Soram nebulizer solution was made of WG and CS. Roughly 6-year-old WG 200 g was washed under running water, decocted in 2,000 ml distilled water, and the decoction was distilled to produce 1,500 ml fluid. CS 200 g was washed under running water, decocted in 2,000 ml distilled water, and the decoction was distilled to produce 1,500 ml fluid. The two fluids were mixed at a ratio of 1:1, filtered with 0.45- and 0.2- $\mu$ m filters, and then sterilized in 8-ml vials. Each nebulizer therapy was done with this solution and an ultrasonic nebulizer (OMRON, NE-U17) for 20 min.

Han et al. [4, 5] reported on the case of a patient with inoperable Klatskin tumor who lived for more than 4.5 years treated with only KMT including WGP, and on another case of metastatic breast cancer in the lungs that was completely resolved with only KMT including WGP and CS pharmacopuncture. CS was also reported to have a role in modulating the immune system and act as an adjuvant in cancer therapy [6].

*T. kirilowii* has been reported to have an antitumor effect through experiments using A549 lung cancer cells [7]. *P. grandiflorus* has been reported to show antimetastatic activities by inhibiting the invasion of cancer cells through a basement membrane. It also inhibited experimentally induced lung cancer and prolonged the survival time in vivo [8].

Lee et al. [9] reported a case that showed a significant anticancer effect of WGP, CS pharmacopuncture, *T. kirilowii* pharmacopuncture and Soramdan in a patient with stage IV non-small cell lung cancer. Choi et al. [10] reported that processed *R. verniciflua* Stokes may inhibit the growth of Lewis lung carcinoma cells partly via inhibition of angiogenesis. Nebulizer therapy has been used for many years to treat various respiratory diseases, and this regional therapy to the lung parenchyma for lung cancer is accepted as feasible and efficient [11].

At first, we prescribed various pharmacopunctures, oral herbal medicines and nebulizer therapy. However, the number and size of metastatic nodules had increased. So, the first regimen was not assumed to have had sufficient efficacy, and the regimen was changed to HND, HAD S and Soram nebulizer solution (table 1). As a result, the number and size of the metastatic nodules had decreased and the shadows of the remaining nodules had faded in both lungs; the second regimen was then continued for an additional month. Finally, multiple metastatic lung nodules had nearly disappeared (fig. 1).

HND is made of ginseng steamed at a high pressure and high temperature. Kim et al. [12] reported that heat processing-induced deglycosylation of ginsenosides contributes to improved anticancer activity of ginseng. Rg3 and Rh2, which are not found in fresh ginseng, were detected in the examination of ginsenoside contents of HND (table 3). It was shown that treatment of cancer cells with Rg3 results in reduction of proliferation, metastasis and mortality [13–17]. Rh2 has been shown to have an anti-proliferative effect on human non-small cell lung cancer. It is able to block cell proliferation, cause G1 phase arrest, enhance the activity of caspase-3 and induce apoptosis in non-small cell lung cancer A549 cells [18, 19].

HAD S is a modified version of HangAm-Plus that is used in the Daejeon University East-West Cancer Center. However, the ratio of *C. militaris*, *C. appendiculata* tuber and *P. ginseng* radix in HAD S is different from that of the original version. Bang et al. [20] reported that HangAm-Plus might improve the symptoms and prolong the survival of patients with advanced-stage non-small cell lung cancer.

This case report shows that metastatic bladder cancer in both lungs can be cured with KMT alone, without chemotherapy or radiotherapy. HND and HAD S cured metastatic bladder cancer, which was aggravated after treatment with various pharmacopunctures, Soramdan, Gunchildan and CS distillate. It is impossible to draw any conclusion about the effect of each KMT modality on metastatic bladder cancer with only one case. However, this report proposes to use HND and HAD S more actively in the treatment of metastatic bladder cancer and other types of cancer as well. More case reports and clinical studies are needed to prove the effectiveness of these medicines.

## References

- 1 Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F: GLOBOCAN 2012 v1.0, Cancer Incidence and Mortality Worldwide: IARC CancerBase No 11. Lyon, International Agency for Research on Cancer, 2013. <http://globocan.iarc.fr> (accessed June 13, 2014).
- 2 Mohanty NK: Cancer urinary bladder etiopathology and its management. *Health Adm* 2005;17:126–131.
- 3 Babaian RH, Johnson DE, Llamas L, Ayala AG: Metastases from transitional cell carcinoma of urinary bladder. *Urology* 1980;16:142–144.
- 4 Han JB, Im CR, Lee JW, Kim SS, Seong S: A case of inoperable Klatskin tumor showing response to wild ginseng pharmacopuncture. *Orient Pharm Exp* 2013;13:235–237.
- 5 Han JB, Ha TH, Kim SS, Seong S: Case of complete remission of breast cancer metastasized to lung treated by traditional Korean therapy. *Korean J Orient Physiol Pathol* 2013;27:818–822.
- 6 Zhu JS, Halpern GM, Jones K: The scientific rediscovery of a precious ancient Chinese herbal regimen: *Cordyceps sinensis*. Part II. *J Altern Complement Med* 1998;4:429–457.
- 7 Li CT, Lin CH, Kao TY, Wu MF, Yeh CS, Yeh KT, Ko JL: The mechanisms of action of Tianhua™ on antitumor activity in lung cancer cells. *Pharm Biol* 2010;48:1302–1309.

- 8 Lee KJ, Kim JY, Choi JH, Kim HG, Chung YC, Roh SH, Jeong HG: Inhibition of tumor invasion and metastasis by aqueous extract of the radix of *Platycodon grandiflorus*. *Food Chem Toxicol* 2006;44:1890–1896.
- 9 Lee DH, Seong S, Kim SS, Han JB: A case of stage IV non-small cell lung cancer treated by Korean medicine therapy alone. *Case Rep Oncol* 2013;6:574–578.
- 10 Choi WC, Lee JH, Lee EO, Lee HJ, Yoon SW, Ahn KS, Kim SH: Study on antiangiogenic and antitumor activities of processed *Rhus verniciflua* stokes extract. *Korean J Orient Physiol Pathol* 2006;20:825–829.
- 11 Zarogoulidis P, Chatzaki E, Porpodis K, Domvri K, Hohenforst-Schmidt W, Goldberg EP, Karamanos N, Zarogoulidis K: Inhaled chemotherapy in lung cancer: future concept of nanomedicine. *Int J Nanomedicine* 2012;7:1551–1572.
- 12 Kim YJ, Yamabe N, Choi PJ, Lee JW, Ham JY, Kang KS: Efficient thermal deglycosylation of ginsenoside Rd and its contribution to the improved anticancer activity of ginseng. *J Agric Food Chem* 2013;61:9185–9191.
- 13 Fishbein AB, Wang CZ, Li XL, et al: Asian ginseng enhances the anti-proliferative effect of 5-fluorouracil on human colorectal cancer: comparison between white and red ginseng. *Arch Pharm Res* 2009;32:505–513.
- 14 Wang CZ, Aung HH, Zhang B, et al: Chemopreventive effects of heat-processed *Panax quinquefolius* root on human breast cancer cells. *Anticancer Res* 2008;28:2545–2551.
- 15 Xu TM, Cui MH, Xin Y, et al: Inhibitory effect of ginsenoside Rg3 on ovarian cancer metastasis. *Chin Med J* 2008;121:1394–1397.
- 16 Lishi H, Tatsuta M, Baba M, et al: Inhibition by ginsenoside Rg3 of bombesin-enhanced peritoneal metastasis of intestinal adenocarcinomas induced by azoxymethane in Wistar rats. *Clin Exp Metastasis* 1997;15:603–611.
- 17 Chen J, Peng H, Ou-Yang X, et al: Research on the antitumor effect of ginsenoside Rg3 in B16 melanoma cells. *Melanoma Res* 2008;18:322–329.
- 18 Zhang C, Yu H, Hou J: Effects of 20 (S)-ginsenoside Rh2 and 20 (R)-ginsenoside Rh2 on proliferation and apoptosis of human lung adenocarcinoma A549 cells. *Zhongguo Zhong Yao Za Zhi* 2011;36:1670–1674.
- 19 Cheng CC, Yang SM, Huang CY, Chen JC, Chang WM, Hsu SL: Molecular mechanisms of ginsenoside Rh2-mediated G1 growth arrest and apoptosis in human lung adenocarcinoma A549 cells. *Cancer Chemother Pharmacol* 2005;55:531–540.
- 20 Bang S-H, Yoon J-W, Cho C-K, Shin J-E, Lee Y-W, Yoo H-S: A case series of survival outcomes in patients with advanced-stage IIIb/IV non-small-cell lung cancer treated with HangAm-Plus. *J Pharmacopunct* 2012;15:31–35.

**Table 1.** Prescriptions from January 11 to May 17, 2014

1st prescription (from January 11 to March 13)	WG pharmacopuncture 10 ml i.v. once a week CS pharmacopuncture 10 ml i.v. once a week <i>T. kirilowii</i> pharmacopuncture 10 ml i.v. once a week <i>P. grandiflorus</i> pharmacopuncture 10 ml i.v. once a week Soramdan 8 g p.o. 4 times a week <i>C. militaris</i> distillate 10 ml p.o. 4 times a week Gunchildan 1,000 mg p.o. t.i.d. daily Soram nebulizer solution inhalation 8 ml q.d.
2nd prescription (from March 14 to May 17)	HND 4 g p.o. t.i.d. daily HAD S 1,000 mg p.o. t.i.d. daily Soram nebulizer solution inhalation 8 ml q.d.

**Table 2.** Prescription of Gunchildan and HAD S

	Herb	Latin botanical name	Relative amount, mg
Gunchildan	乾漆	<i>Lacca sinica exsiccata</i>	333.3
	山藥	<i>Dioscorea opposita</i> Thunb.	55.5
	生地黃	<i>Rehmannia glutinosa</i>	55.5
	柳根皮	<i>Ulmus davidiana</i> Planch.	55.5
	Total amount (1 capsule)		499.8
HAD S	三七	<i>P. notoginseng</i> radix	95.2
	山慈菇	<i>C. appendiculata</i> tuber	95.2
	冬蟲夏草	<i>C. miliaris</i>	71.4
	人蔘	<i>P. ginseng</i> radix	47.6
	沒藥	<i>C. myrrha</i>	47.6
	牛黃	calculus bovis	47.6
	珍珠粉	margarita	47.6
	乳香	<i>B. carteri</i>	47.6
	Total amount (1 capsule)		499.8

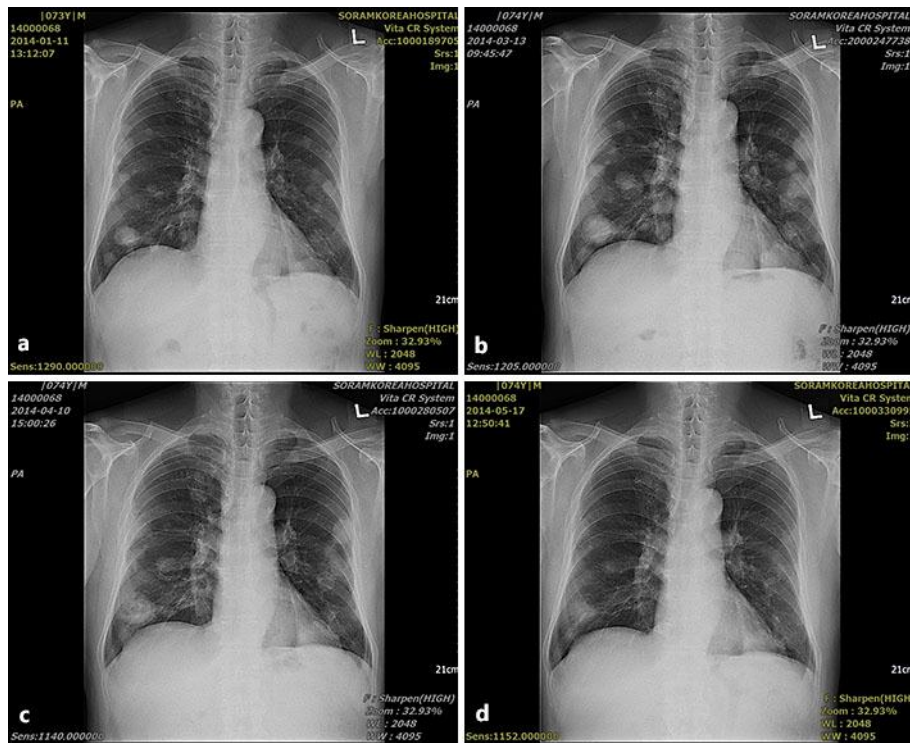
**Table 3.** The ginsenoside contents of *P. ginseng* and HND

Ginsenoside	<i>P. ginseng</i> , mg/g	HND, mg/g
Rg1	2.78	0.12
Rb1	2.41	1.82
Rg3 (S + R)	0.00	6.16
Rh2	0.00	0.11

The date of test was January 20, 2014.



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**Fig. 1.** Chest X-ray images. **a** Image of January 11, 2014. Multiple metastatic nodules were identified in both lungs and KMT was started. **b** Image of March 13, 2014. Multiple metastatic nodules were increased in number and size after 2 months of treatment with various pharmacopunctures, Soramdan, Gunchildan and CS distillate intake, and Soram nebulizer solution inhalation. **c** Image of April 10, 2014. A slight improvement was achieved after 1 month of treatment with HND and HAD S intake and Soram nebulizer solution inhalation. **d** Image of May 17, 2014. A significant improvement was achieved with treatment with HND and HAD S intake and Soram nebulizer solution inhalation for an additional month.