

Subjective Sensation of Heaviness in Gout Patients

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ABSTRACT

The main objective of the treatment of gout is to protect the major organs. Almost all gout patients require medication throughout their lives. Gout patients are asymptomatic during intercritical periods, even if they are not receiving antihyperuricemic drugs. Some patients, therefore, misinterpret that their gout is cured and may cease taking medication of their own accord. Thirty-two gout patients who had received continuous treatment with antihyperuricemic drugs for more than 3 months were selected. The sensation of heaviness was relieved by antihyperuricemic drugs in 14 (44%) of 32 patients. The heaviness did not exist or change in the other patients. Benzbromarone, probenecid, and allopurinol were found to be effective. The sensation of heaviness occurred after increased physical activity in 10 of 14 patients. Of 14 patients, 12 did not notice that the sensation of heaviness was relieved by antihyperuricemic drugs. Two hypotheses for the cause of heaviness are considered. One is mild gouty neuropathy, the other low-grade inflammation. A proper understanding that this symptom is relieved by antihyperuricemic drugs may serve as additional motivation for gout patients to take their medication regularly.

Key words: *Hyperuricemia, Monosodium urate crystals, Subjective symptoms, Neuropathy*

The main objective of the treatment of gout is to protect the major organs⁷⁾. If gout patients do not take their medication, the risk of long-term damage to major organs is increased. Gout patients are asymptomatic during intercritical periods, even if they are not receiving antihyperuricemic drugs⁸⁾. Some patients, therefore, misinterpret this to mean that their gout is cured, and they may stop taking their medication of their own accord. If gout patients who fail to take their medication experience symptoms during intercritical periods and these symptoms are alleviated by antihyperuricemic drugs, it may motivate them to take their medication more regularly.

MATERIALS AND METHODS

Thirty-two gout patients who had received continuous treatment with antihyperuricemic drugs for more than 3 months were selected for this study. Fifteen patients were seen at Miharashi Ishikai Hospital between April 1995 and March 1997; 7 at Kakechou Kokuminkenkouhoken Hospital between April 1997 and September 1997; 2 at Tobe Hospital, 4 at Imada Hospital, 4 at Central Hospital between October 1997 and March 1999. The author interviewed each of the 32 patients when they visited the hospital, focus-

ing on any subjective sensation of heaviness developing more than 1 week after they had stopped taking their medication. The author asked the patients as follows: "Compared to medication and non-medication, did the sensation of heaviness change? For example, after you engage in vigorous sports activities or strenuous work, you experience pain the next day and a sensation of heaviness 2 or 3 days later. Did you notice the change? What kind of heaviness was alleviated after taking medication, for example after walking for a long distance? Where did you sense heaviness?" Failure to take their medication for more than 1 month was assigned as stopping the medication. The patient group consisted of 29 men and 3 women ranging in age from 34 to 89 years old (mean, 58.0 years old). Twenty-nine men and 2 women had primary gout and 1 woman had secondary gout due to xanthine derivatives¹¹⁾. Age at the first gouty attack ranged from 20 to 86 years old (mean, 48.2 years old). The duration of continuous treatment with antihyperuricemic drugs ranged from 3 to 60 months (mean, 17.1 months). Only 1 patient had tophi.

RESULTS

The sensation of heaviness was relieved by antihyperuricemic drugs in 14 (44%) of 32 patients

(Table 1). The heaviness did not exist or change in the other patients. In 10 patients, this symptom involved their lower extremities (in both lower extremities in 1, below the knees in 3, in both legs in 2, in the left leg in 1, in both feet in 1, and at the first metatarsophalangeal joint in 2); it involved the entire body in 3 patients and it involved both feet and both hands in 1 patient. The sensation of heaviness occurred after walking for a long distance, strenuous work, or vigorous sports activities in 10 of 14 patients. The remaining patients sensed the heaviness at rest. Three antihyperuricemic drugs were found to be effective (Table 2).

Of 14 patients, 12 had not previously noticed that the symptom occurred when they stopped taking their medication. Only 2 patients had noticed this association. However, the 2 patients did not inform the author of the heaviness on their own initiative before the interview.

DISCUSSION

The sensation of heaviness discussed in this report is different from pain. For example, when the patients engaged in vigorous sports activities or strenuous work, they experienced pain on the next day and a sensation of heaviness 2 or 3 days later. Leaden sensation, dull sensation, and tired feeling are included in a sensation of heaviness. Langeron⁶ reported that the very common feeling of heaviness, generally not painful, may be perceived as being painful by certain patients either because of the particular severity of the feeling or because of a low pain threshold in some cases. The sensation of heaviness in this study differed from the premonitory symptoms before a gouty attack, because it was not followed by a gouty attack.

Visiting the hospital regularly throughout their lives burdens patients in terms of time, cost, and

emotional stress. Since gout patients often have no other serious medical condition, they no longer need to visit the hospital, if they stop taking their medication. Thus, patients can save both time and money, and also relieve the emotional stress associated with receiving medical treatment. They may, therefore decide to stop visiting the hospital. Some gout patients stop taking their medication and consult a physician only after experiencing another gouty attack. In this study, one patient started continuous treatment with antihyperuricemic drugs only after he developed hemiplegia. It is easy for gout patients to start treatment with antihyperuricemic drugs, but it is not easy for them to continue taking their medication.

The main objective of treatment in gout is not to prevent gouty attacks⁷, but to protect the heart and brain from arteriosclerosis and the kidney from arteriosclerosis, urolithiasis, and acid urine. If gout patients stop taking their medication, the risk of long-term damage to major organs is increased. It affects their life⁸. If the major organs are protected with antihyperuricemic drugs, gouty attack consequentially does not occur⁷. Antihyperuricemic drugs do not change the mechanism of the uric acid metabolism⁷. Antihyperuricemic drugs generally decrease serum uric acid levels for 1 or 2 days at most. Therefore, almost all gout patients require medication throughout their lives.

Gout patients are asymptomatic during intercritical periods whether they are receiving antihyperuricemic drugs or not⁸. A sensation of heaviness generally occurs after walking a long distance, strenuous work, or vigorous sports activities. The heaviness increased in some gout patients when they stopped taking their medication. Gouty attacks are universally recognized as being associated with severe pain, but the sensa-

Table 1. Comparison between improvement group and constancy group

	Improvement* (n = 14)	Constancy# (n = 18)
Age (years)	58.0 ± 13.1	58.0 ± 12.9
Age at first gouty attack (years)	48.7 ± 14.8	47.7 ± 14.2
Age at start of continuous treatment (years)	57.0 ± 13.0	56.7 ± 12.5
Maximum serum uric acid value without medication (mg/dl)	9.2 ± 1.1	9.2 ± 1.3

mean ± SD

*Patients whose heaviness was relieved by medication

#Patients whose heaviness was not changed by medication

There were no significant differences between 2 groups (Student's 2-tailed *t*-test).

Table 2. Effects of antihyperuricemic drugs

Antihyperuricemic drug	Patient (s)	Patient (s) whose heaviness was alleviated by the drug
Benzbromarone	20	9
Probenecid	1	1
Allopurinol	11	4
	32	14

tion of heaviness associated with gout has not attracted much attention. Gout patients usually do not notice that the symptom is due to the gout and they usually fail to inform their physician of this symptom on their own initiative. Of 14 patients in this study, 12 did not notice that the sensation of heaviness was relieved by antihyperuricemic drugs. Only 2 patients noticed this association. Moreover, the 2 patients did not inform the author of the heaviness on their own initiative before the interview. Therefore, it is difficult for the physician to know that patients are experiencing a sensation of heaviness due to gout. If the physician explains to patients that gout is responsible for this symptom and that it can be relieved by antihyperuricemic drugs, it may help patients improve their compliance.

The sensation of heaviness was relieved by three different antihyperuricemic drugs. Therefore, the effect does not appear to depend on any specific antihyperuricemic drug employed. The symptom resolved after the serum uric acid level decreased. The author, therefore, speculates that this symptom is directly related to increased serum uric acid levels. As a cause of the heaviness, two hypotheses are considered. One is mild gouty neuropathy, the other low-grade inflammation. Henson et al⁵⁾ reported that there was no reason for regarding a generalized peripheral neuropathy as the direct result of gout. However, Delaney³⁾ reported a gout patient had suffered from a peripheral neuropathy that had improved with the lowering of the serum uric acid level. He concluded that the hyperuricemia of gout may produce a treatable form of peripheral neuropathy³⁾. The tophaceous gout patient had progressive numbness of his feet and difficulty walking³⁾. The difference of expression and/or the degree of the disease may be a cause on the difference between "numbness" and "heaviness". In the future, the author would like to clarify the cause of heaviness with nerve conduction velocity studies, electromyography, neurological examination, and so on.

Gout patients have monosodium urate crystals in their synovial fluid^{1,2,4,9,10,12)}, suggesting that a low-grade inflammation is present in some joints of the patients with crystals⁹⁾. Low-grade inflammation may be a cause of heaviness, although the mechanism has yet to be identified.

In conclusion, the sensation of heaviness was relieved by antihyperuricemic drugs in 14 (44%) of 32 patients. An understanding that this symptom

is relieved by antihyperuricemic drugs may serve as additional motivation for gout patients to take their medication regularly.

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