

Reporting a case of nine-year resistant toe joint pain treated based on principles of Iranian traditional medicine

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ABSTRACT

Background: Musculoskeletal problems are among the most common complaints in outpatient visits. Treatment of joint pain in Iranian traditional medicine includes eliminating the cause, cleansing the body of phfootm or the probable substance, transforming humors, and tonifying organs to prevent relapse and accepting loss of substance.

Case Presentation: The patient was a 32-year-old thin man, without abdominal obesity and a relatively dark complexion with a history of more than nine years of pain in the right toe, which initiated as occasional pains and persisted almost continuously for the past three years. In spite of numerous medical follow-ups and two surgical operations since 2012, his condition did not improve and the patients had to consume painkiller constantly, such that he finally was recommended to amputate the affected toe.

The patient's pain at the time of visit was very severe. The pain was more severe at nights, which awakened the patient, and was stiff in the morning. Exertion of any strike (of any intensity) caused pain intensification in the joint. Further, in some cases the pain was followed by inflation, redness, and warmth of the joint.

In examination, inflammatory factors of the patient were negative. In bone scan, a lesion was reported in the first metatarsal bone of the right foot.

The patient was irritable, with rapid irritability and late relief along with symptoms of aggression, anger suppression and its resulting mental traffic, obsession (mental and occupational), meticulous, huge mental traffic, stress, anxiety, worry, and sensitivity to the surrounding noises.

Conclusion: Accumulation of black bile in the first metatarsal joint of the right foot caused development of severe pain in the patient's foot. Through time, gradual condensation of the substance occurred, making treatment more difficult. Accordingly, it was necessary that in addition to modifying the patient's humors, the substance accumulated in the joint be transformed to facilitate its excretion. Therefore, pharmacological treatment, topical unction, and following measures along with benefiting from the Fateh traditional manipulative treatment and leech therapy were used. The overall outcome was diminished pain, such that over the past five months, the patient did not report any kind of pain.

Keywords: Joint Pain, Monoarthritis, Toe, Traditional Medicine

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Introduction

Acute monoarthritis refers to inflammation of only one joint, accompanied by pain, swelling, redness, or limited mobility within less than three weeks. Considering chronic mono-arthritis, there is no accurate definition, though it is considered generally as inflammation of a joint lasting for at least six weeks (1).

Crystal arthritis including gout, trauma, and infections are the most common causes of monoarthritis (2). Among other common diagnoses in these cases are mechanical complications of osteoarthritis, fractures, and ligament or meniscus damages, while the less common ones are hemarthrosis, tumor, and ischemic necrosis (osteonecrosis).

Awareness of the prevalence of the specific causes and taking suitable diagnostic measures are really important, as delayed diagnosis and treatment especially in septic arthritis can bring about disastrous outcomes including sepsis, bacteremia, joint degeneration, and even death (3).

Chronic monoarthritis is also common, and challenging both in diagnosis and treatment. Most cases of this disease are non-infective, and can be considered part of spondyloarthropathy. However, some instances are a result of chronic infections especially tuberculosis and occasionally synovial tumors. Noninfectious inflammation may sometimes be a symptom of systemic disease. Analysis of synovial fluid and sometimes biopsy are very important for diagnosis. Noninfectious cases may be treated by injection of corticosteroids. However, resistant cases may need more topical or systemic interventions and sometimes surgery (4).

From the perspective of Iranian traditional medicine, there are two general causes for joint pain:

- 1) weakness of joints, which can be due to heavy activity or impact;
- 2) accumulation of substances in joints, for which various causes have been mentioned (5);

Joint weakness develops due to strong malady, heavy activity, or impact. Additionally, some cases may be a result of congenital weakness (6).

Accumulation of substance into joints usually occurs due to several reasons including quitting exercise in a person used to exercising. As a result, waste accumulates in the joints, stomach digestion weakens, not following proper eating and drinking rituals, coryza and nausea, etc. and physical and spiritual movements which cause movement of humors and their discharge into the joints (7).

When the substance discharges into the toe joint, the pain is severe and hard, as its joint space has become limited, the discharge substance does not perish, and causes development of tension and stretching. Nevertheless, the extent of sense in these joints is high and due to rigidity of the joint, the discharged substances cannot be easily cleared. Eventually, because of the conditions governing the joint, in spite of the low level of cause (the discharged substance), its pain and torment extent aggravates (5).

Joint pains are either simple (without substance) or material, where the simple pains have no swelling but the material pains are accompanied by swelling (8). Considering the material types, the substance accumulates in the joint due to several reasons, causing development of pain in it (9). Given the type of the discharged substance, different symptoms developed in the affected joint. For example, in joint pains resulting from dominance of phlootm, a huge sense of heaviness

occurs in the joint, but there is no heat and inflammation, the intensity of pain is medium and its type is deep, joint swelling is trivial and soft and is the same color as all the parts of the body, and other signs of phfootm dominance are also found in the person. On the other hand, in a joint pain resulting from dominance of black bile, the pain is mild, there is swelling of joint, but there is rigidity, its color is dark and bluish, and other signs of black bile dominance are also found in the person (10).

In these cases with material causes, in addition to preventing discharge of substance into the joint, that joint is strengthened to prevent reception of the substance. Attempts are also made to degrade the discharged substance (9).

Introducing the patient

1. History and examinations based on traditional medicine

The patient was a 32-year-old man, from and living in Tehran, with master's degree in clinical psychology, employee, and married with a history of more than nine years of pain in the right foot's toe.

He experienced more than nine years of pain in the right foot's toe, which initiated as occasional pains and persisted almost continuously for the past three years. In spite of numerous medical follow-ups and two surgical operations since 2012, his condition did not improve and the patient had to consume painkiller constantly, such that he finally was recommended to amputate the affected toe.

At the beginning of the problem, the patient's toe had no pain, and only in case of incidence of extreme strikes, the pain started. However, the pain intensity even at the beginning was around 10 (based on visual analog scale), where

the pain intensity - in case of not consuming painkiller - was as large as the pain which persisted continuously until the first visit. The pain improved with painkillers, but as it did not respond to one single painkiller in some cases, the patient had to consume further painkillers. In addition, to mitigate the pain, the patient consumed different types of painkillers. During this period, the patient underwent surgery for two times, which in 2012, following bone scanning (Fig. 1) and observation of bone damage in the first metatarsal joint of the right foot, he was operated, in which biopsy was performed on the soft tissue and bone. After initial investigations, reactive changes were reported. In 2014, the patient underwent another surgery for bone graft, but his pain did not diminish considerably.

At the time of visit, his pain was severe (10 out of 10). The mentioned joint had greater pain at nights, but during morning it was stiff. Occurrence of any strike with any intensity to the joint caused pain in this vacation in the joint. At the onset of pain initiation and until its relative relief, he was not able to do anything. Furthermore, sometimes it showed swelling, redness, and warmth of joint, though they were not observed at the time of visit.

No relationship was found between consumption of different foods and pain. However, heavy physical activity and especially intense walking was considered influential in pain intensification. Pain during sleep repeatedly awakened the patient.

The patient mentioned two types of pain: first a needle-like pain, as thrusting needle into the bone, though he experienced it less, but was more tolerable than the second type and improved faster. The second type - which was not very accurately explained by him - was a pain more intense than the first type, intrusive, throbbing,



Figure 1: Total body bone scan images (2012)

and without propagation to other parts of foot, which was sometimes accompanied by swelling, redness, and heat, which responded to relieving measures less successfully. Normal pressures did not cause joint pain, however huge pressure or impact (with any intensity) initiated the pain.

The patient had no history of another disease, and had no history of a similar disease in family members. He had no history of fracture and impact at that site, but in the past he practiced martial arts, and bore the normal strikes of the mentioned sports at the affected site and other points. Nevertheless, he did not mention occurrence of any abnormal impact or pressure to the mentioned toe. At the time of visit, he consumed different painkiller and anti-inflammatory medications including naproxen and acetaminophen codeine.

During the duration of coping with the pain, various paraclinical examinations were performed on the patient, which can be summarized as below:

MRI (30 May 2012): edema in the distal first metatarsal bone along with edema of the adjacent tissue. The findings suggested osteomyelitis Total body bone scan (13 June 2012): bone lesion in the first metatarsal bone of the right foot (Fig. 1).

Pathology test (2012/11/21): reactive changes in the soft-tissue and lesion in the first right metatarsal.

Blood tests (biochemistry, immunology, hormone) (17 February 2013):

CRP, R.F: Neg. / A.N.A: 0.5 (Neg.) / Anti CCP: 1.2 (Neg.)

blood tests (11 August 2013 and 21 July 2014):

CRP, R.F: Neg. / Anti Streptolysin: <200 (Nl:<200)

pathology test (8 September, 2014): fibro-adipose and bone tissue without any sign of inflammatory process or neoplastic lesion.

Bone scan (14 February, 2015): scan pattern in

the first right metatarsal suggested suitable bone graft with no complication.

Blood tests (15 May, 2015):

Anti TPO: 186 (up to 34)

MRI and radiography (3 January, 2016): in the radiography of the right foot, natural bone density was observed with no abnormal lesion. Normal soft-tissue.

In the MRI of the right foot, effusion and microtraumatic changes were observed in the first metatarsal joint. The recent possible traumas were investigated. No tumor was observed in the soft or hard tissue.

Blood tests (31 May 2016):

CRP: Neg. / ESR: 5 / Alk-P: 104

2. The history and examinations based on traditional medicine

The patient is an employee, working in one of the organizations in Tehran. He is thin, without abdominal obesity, with a relatively dark complexion, short, black, and sparse hair with male pattern baldness with a height of 1.86 m and weight of 58 kg.

The patient's texture was cold, his skin was dry, and pulse had proper rigor and rigid.

The general health of the patient was not suitable, and he complained from extreme weakness and fatigue resulting from a great deal of pain and insomnia. As the joint pain became chronic, he was irritable, and although he described getting angry easily in the past, currently he became irritable easily and showed fairly extreme reactions to external stimuli, and his anger alleviated late.

The patient's sleep quality was not good due to pain and repetitive awakenings. His sleep was light with no challenge. Due to low sleep quality, he described boredom after the sleep. The patient

also had nightmares.

The patient had also a history of sinusitis, which was intensified with cold wind. He did not have important nutritional issues. He experienced intermittent diarrhea and constipation periods, yet the diarrhea was more dominant. Nevertheless, in case of consuming food after tolerating long-term hunger, he experienced frequent watery disposal in large volume.

The patient practiced martial arts for around 15 years. Although in a few and transient cases, he mentioned pain when practicing the exercises, the pain with extreme intensity at the time of visit had begun after two years of leaving the exercise. At the first visit, the patient's physical activity, in spite of the joint pain, was more than normal and he jogged between 1 and 3 hours daily.

The patient was irritable, with quick anger and late relief along with aggression, anger suppression and its resulting mental traffic, obsession (mental and occupational), meticulation, huge mental traffic, stress, anxiety, worry, and sensitive to surrounding noise.

Wound healing occurs late in the patient, and sometimes even simple wounds took one month to heal. According to the patient experience, this duration was shortened to one week and earlier after one month of initiating consumption of black bile discharger.

3. Therapeutic interventions

The innate humor of the patient was cold and dry, and at the onset, given the dominance of black bile and great dryness and his weakness along with the severe pain of toe joint, in addition to recommending modification of drinking and eating rituals and other six principles necessary for health, *Cuscuta epithimum* whey was

prescribed three teaspoonsful per day in the morning, and Mann oil was prescribed for topical use (every night). Furthermore, Fateh Iranian manual treatment was used in the lower limbs of the patient's body. An exercise was also trained to the patient to perform it three times a day, each session 10 times. In addition, the manner of performing the mentioned manual treatment was also taught to his companions.

In the next visit, which was performed two weeks later, the patient's pain had disappeared completely. However, due to consumption of *Cuscuta epithimum* whey, he suffered from diarrhea, and as such he was recommended to reduce the dose for two weeks. Further, by consuming the Mann oil, he experienced itching in the joint, and was thus recommended to stop using the drug. In the third visit, which was performed two weeks later, the whey was replaced by black bile discharger. A mild pain continued until this visit. After one month and in the fourth visit, leech therapy was prescribed at the site of pain. Thereafter, one month later and in the fifth visit, the patient complained from a relapse in pain following leeching and drug discontinuation. Nevertheless, the patient had also quit regular manual treatment. After the leeching, the pain began but after one week, it gradually declined, which during two weeks, the pain diminished. However, from around the fourth week, it relapsed again and at the time of visit, it had returned almost to its initial state. The patient had not used any painkiller to relieve the pain during this period and when the pain intensified, he benefited from manual treatment to relieve the pain.

At this stage, the *Cuscuta epithimum* whey was readministered along with topical oils, and he was seriously recommended to initiate the Fateh Iranian manual treatment again regularly.

In this way, the patient gradually diminished and after two months, the patient's foot was pain-free without receiving any kind of painkiller. Currently, after five months, he has not reported any pain in his toe.

Drug therapy

Whey

Whey is a complex protein derived from milk, which is obtained by adding rennet or acid (lactic, acetic, or citric acids) to the milk and then separating the cheese. Whey discharges substances and gradually expels concentrated and abnormal materials out of the body, and simultaneously humidifies the body. This is an important characteristic of whey, i.e. expelling out substances and humidifying the body, without causing body dryness (11). Whey has a warm disposition in the first degree and humid disposition in the second degree (12).

Whey is used either alone or together with another drug, according to the physician. For example, consumption of whey along with *Cuscuta epithymum* and tamarind has been considered unique in black bile diarrhea (13,14). The effect of this drug in treating the diseases of different parts of the body including limbs has been mentioned in various references of traditional medicine. Although these diseases have a wide range, the effect of whey in their treatment originates from its effect on cooling and humidifying the body and clearing the body off the disease causing substance. Furthermore, in emergence of these effects, drug or suitable drugs coupled with whey are also important (12). In traditional medicine texts, whey has been considered unique for treating bile diseases (11).

Cuscuta epithymum

Cuscuta epithymum is a Greek word which means drug for madness. The nature of this

drug is warm in second degree and dry (15). In traditional medicine, it is used to treat epilepsy, cancer, lunacy, paralysis, skin diseases, etc. This plant has anti-inflammatory, antiproliferative, hypothermic, analgesic, and CNS depressant effects. Its consumption does not bring hepatic or renal complications in humans, though in case of overuse, it causes intestinal colitis and diarrhea (11).

Mann oil

It is a drug consisting of *Hyoscyamus niger* L, *Papaver Somniferum* L., *Lactuca sativa* L., and *Sesamum indicum* L., which is rubbed against the sites of interest according to the physician's prescription. This oil is effective in improving the complications resulting from limb dryness as well as joints, and alleviating their pain (16).

Black bile discharger

To expel a substance that causes disease in any part of the body, drugs are used to prepare the mentioned substance to leave the body. These drugs are called dischargers. Given the humor causing the disease, dischargers are selected in prescribed to discharge a substance. Black bile discharger is also prescribed with the same approach to prepare abnormal black bile humor replaced at different sites, so that through its discharge, the disease would be also treated.

This drug contains *Ziziphus jujube* MILL., *Cordia myxa*, *Echium amoenum* fish mey, *Melissa officinalis*, *Lavandula angustifolia* Mill, *Adiantum capillus-veneris*, *Pimpinella anisum* L, *Fumaria officinalis*, and *Glycyrrhize glabra* L, and is consumed twice a day (16).

4. The treatment outcomes

Diminished pain following usage of drugs and use

of manual treatment and no need to painkillers - after nine years of pain and use of different drugs and interventions during this period - are considered the remarkable results of the treatment. Nevertheless, it seems that early use of leech alongside stopped whey consumption and regular manual treatment by the patient, resulted in pain relapse, which was then mitigated using the manual treatments when the pain intensity was maximum.

It seems that the subsequent process of treatment and relatively regular reusage of the mentioned drugs and benefiting from manual treatment and diminished pain somehow confirm this point.

Conclusion

As mentioned above, joint pains have material and nonmaterial types. In this patient, pain was a result of accumulation of substance in the first metatarsal joint of the right foot. Considering the patient conditions and sedimentation of the substance in the lower parts of the body, it could be black bile. Nevertheless, passage of time causes gradual condensation of the substance and thus more complicated treatment. As the disease became chronic, the symptoms became intensified along with the cold-dry substance disposition. As according to traditional medicine the patient had a cold and dry innate temperament and the malady occurred to the patient was black bile based, thus the treatment was grounded also accordingly. Hence, in addition to modifying the patient temperament, the joint should have been purged and cleared off the accumulated substances. As the sedimented materials were condensed and expelling them out without developing discharger and preparing for discharge caused intensification of condensation

and loss aggravation of symptoms and more difficult treatment, thus treatment with Cuscuta epithimum whey was initiated, which humidified the patient's body, gradually discharging his black bile.

Prescribing black bile discharger was in line with this purpose and to accelerate improvement of general conditions of the patient and treating his joint problem.

Alongside Cuscuta epithimum whey and after black bile discharger, the prescribed manual treatment also helped enhance blood supply and thus elevate the temperature of organ ends and promote gradual discharge of substances. All these resulted in diminished pain, such that seems beginning of drug therapy until the visit and receiving leech therapy and in spite of the relapse of pain following leeching, the patient had no need to consume painkillers anymore.

It seems that considering discontinuation of drugs and leaving the regular manual treatment by the patient and performing leech therapy, the joint became stiff. Continuation of treatment with the previous drugs and the manual treatment regularly and usage of topical unction using suitable oils returned the conditions to the previous state and improved of the patient's problem.

Conflicts of Interest

There are no conflicts of interest.

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