



RESEARCH ARTICLE

RESEARCH PROGRESS OF GOUT TREATMENT BY FOUR ETHNIC MEDICINE

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ABSTRACT

Gout is a recurrent inflammatory disease caused by disorders of purine metabolism, increased serum uric acid and deposition of uric acid crystals in joint synovium, cartilage and other tissues, and it is a common and frequently occurring disease in clinic. The incidence rate is increasing in recent years. Western medicine treatment of gout drugs, because of its adverse reactions and high prices, limited its clinical use. Ethnic medicine, as an important part of traditional Chinese medicine, it has distinct national, regional and special treatment features. Because of its unique opinions and remarkable curative effects in the treatment of gout, it has gradually been widely recognized by the medical community. Based on this, this paper summarizes the experimental results of the treatment of gout from Tibetan, Mongolian, Dai and Uygur nationalities in terms of etiology, pathogenesis, clinical application and modern medical research, with a view to providing theoretical reference for clinical treatment and research of gout.

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INTRODUCTION

Gout is a group of clinical syndrome caused by disorder of purine metabolism and (or) excessive uric acid production and (or) decreased uric acid excretion, resulting in precipitation of uric acid crystals (Ye RG, et al., 2004). The clinical manifestations were hyperuricemia (HUA), recurrent acute and chronic arthritis and soft tissue injury caused by uric acid deposition, and gouty nephropathy caused by uric acid nephrolithiasis. With the continuous improvement of living conditions, the pathogenesis of gout is not only related to heredity, individual metabolism, environment and so on, but also high purine food such as excessive drinking, intake of seafood products and animal viscera has become a common cause of gout (Zhang L, et al., 2013). At present, the incidence of gout in China is increasing (Gao X.J., et al., 2018), it brings a certain burden to people's, economy. In the treatment of this disease, *nonsteroidal anti-inflammatory drugs (NSAIDs)*, *colchicine*, *glucocorticoids* are mainly used in the acute phase of Western medicine; intermittent and chronic phase of treatment is mainly to control blood uric acid levels and alkalized urine (Wang X.L., et al., 2018). Although it can effectively control the symptoms, but can not cure the disease, and Western medicine treatment of liver and kidney function and gastrointestinal side effects are greater. Besides, the

disease is easy to recur, the patient's compliance decreased, so looking for other methods to treat the disease has become an urgent matter. Ethnic medicine, as a part of the traditional Chinese medicine, has a long history. It is a precious wealth formed by various ethnic groups through long-term exploration and practice. It not only contributes to the health of ethnic minorities, but also provides a lot of new ideas for today's medical problems. In recent years, ethnic medicine in Tibet, Mongolia, Dai, Uygur four major ethnic medicine research quite a lot, in combination with the theoretical basis of the four major ethnic groups, the application of modern experimental technology in the study of ethnic medicine, so that in the treatment of gout can not only multiway treatment of gout, forming its own unique advantages, it can also provide ideas and methods for the study of other ethnic medicines, so as to find suitable treatment schemes for gout patients according to climate-concerned treatment, environment-concerned treatment, individuality-concerned treatment. This article summarizes the clinical experience and experimental research on the treatment of gout by Tibetan, Mongolian, Dai, and Uygur medicine.

Tibetan

Pathogeny and Pathogenesis

Gout can be attributed to the "ZhiNai" category in Tibetan medicine. The Tibetan medicine "Four Medical

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Dictionaries”(Yutuo Y.D.G.B., 1982) thinks that it is due to daytime sleepiness, eating improper, lazy or active, tired or injury and so on, resulting in disorders of qi and blood. The disease is divided into four types: Long-type gout, Chiba-type gout, Blood-type gout and Bacon-type gout. In the early stage of the disease, there are pain and itching of the thigh and lumbar joints, and the activity is slow, numb, and heavy. After repeated episodes, it is getting worse and it forms gout. In the early stage of the gout, the affected part is in the skin, it become red, swollen, heat and painful; then it become hardened and blue, painful, and often stretches to relieve pain. At this time, it should be treated promptly and the prognosis is very well. In the later stages of the gout, the pain will spread to the tendons, joints, swelling and hardening, and it is unbearable; the anus and joints have a broken sensation, and the disease continues to develop, which will eventually lead to difficulty in walking. At this time, the disease is difficult to treat. Different types of gout will show different symptoms, such as Long-type gout for itching, swelling, and blue-black spots; Chiba-type gout is characterized by fever, red swelling, pain intolerable; the skin of Blood-type gout is brown and erosion; Bacon-type gout is itchy, heavy, and unconscious.

Clinical Application

According to the different syndromes of gout, Tibetan doctor thinks that the main treatment principle should be to eliminating wind, treat bacon, axunge, long, blood, and then take many times of bloodletting treatment, but the amount of bloodletting should be less; for the flashing pain and swelling, with the angle of suction treatment; large areas of swelling, with acupuncture rejection, for example, “Ji Yi Guangzhu. Ci Yi Yue Guang” said: “gout need use oil treatment, protect Long and relief the pain to be based on physical strength, many times a little bleeding”, “red swelling burning pain, using leech to suck the bad blood; itching, pain, fever, with the voice of “zizi” using suction angle”, these can explain the main treatment method of gout. About the treatment of four types of gout, the “Four Medical Dictionaries”(Yutuo Y.D.G.B., 1982)recorded that the treatment of Long-type using *huangniusou*, *baiyunxiang*, milk(these herbs can play a role of purging), and then with *Mutengliao* thick decoction, mixed with milk decoction, add sugar to take. Chiba-type gout can use the decoction which be made up of *Carthamiflos* and *Phellodendrichinensis cortex*, when drinking the decoction, it need add some honey; then taking the decoction which be made up of *LiLou*, grape, cow milk. For Blood-type and Chiba-type gout, can use the cataplasm(it is made up of *Glycyrrhizae radix et rhizome*, *Rubusmallotifolius*, *Rubiae radix et rhizome*, *Phellodendrichinensis cortex*, *Santali albi lignum*, *Dendrobiicaulis*, *Platycladi cacumen*, *Vigna angularis*, White sugar and so on) to cold compresses; for bacon-type gout, take orally with *San guo* and honey preparation. It has been reported that the therapeutic effect of Tibetan medicine on gouty arthritis is more significant than that of Western medicine *colchicine* or *glucocorticoid* (Gazang J.M., Ma Y.L.,2006); Zhuoma R.Q.(2018) compared with western medicine group and integrated Tibetan and western medicine group, found that the total effective rate of integrated Tibetan and Western medicine group is higher than that of western medicine group; LiMao (Da) C.R.(2014) also showed that Tibetan and Western

medicine combination group had significant differences than western medicine group and Tibetan medicine group in the cure, relieve symptoms and total treatment efficiency. Bloodletting therapy is a major feature of Tibetan medicine to treat gout. Danzheng X.X.(2017) based on her long-term clinical practice, combined with the previous literature and the experience of Tibetan bloodletting, selecting the “straight-combined pulse” acupoints for bloodletting treatment, so that the toxic blood of accumulation in gout patient’foot and blood uric acid could directly excrete from the body by bloodletting, thereby achieving the purpose of relieving pain and treating the disease, besides, if this method was combined with Tibetan medicine for oral administration, which had a good effect on preventing recurrent episodes of gout; DongZhi C.R.(2017) compared control group(it was treated with Tibetan medicine) and treatment group(it adopted bloodletting therapy combined with oral Tibetan medicine rapid analgesia method), the results showed that the treatment group had obvious effect, and the number of recovery cases was more than that of the control group; while for taking only bloodletting and taking bloodletting combined with Tibetan medicine, clinical observations found that the latter effect is ideal(2017); Yang B.Z.X.(2015) compared Tibetan bloodletting therapy with conventional acupuncture methods, the results showed that the study group’s physiological function, joint stiffness, pain, all of the above symptoms get significant relief than the control group, and the total effective rate of the study group was higher than that of the control group. This shows that the comprehensive effect of Tibetan medicine bloodletting therapy on gout is very significant. If giving Tibetan medicine foe gout patient before the treatment of bloodletting, it will achive twice the result with half the effort. This treatment is not only easy to operate, convenient to use, low cost, high efficacy, but it is very effective in relieving pain and condition. And it is accepted by many patients (Dangzeng C.R., et al.,2015.). In addition, Tibetan doctors in the treatment of external treatment also use other therapy, for example: the seven-star needle to stimulate acupuncture point combined with Tibetan medicine therapy (Deng Z.,2002), the medicated bath method(such as Tibetan medicine sitting edge therapy) (Peng Mao C.D., 2014), ointment (it was made up of moderate boy urine and *Oxytropisrecognita* of stubble powder) rubbing(Dan Q.J., 2017; GongBa Z.X., 2017),these external treatment can have a good effect.

Experimental Research

Studies on Tibetan medicine, Tibetan prescription-Maoruersan research shows that(Sun X.B., et al., 2005.) its water and alcohol extracts can effectively inhibit foot swelling in rats with gouty arthritis; and in rats it also can reduce uric acid enzyme inhibitor and hypoxanthine induced hyperuric acid. Besides, the Maoruersan has a significant inhibitory effect on the activity of xanthine oxidase in rats with hyperuricemia caused by hypoxanthine. Sun X.B., et al.(2005) studied Tibetan medicine Sangdang showed that it also had significant inhibitory effect on rats with gout arthritis; and for the activity of serum uric acid and xanthine oxidase in rats with hyperuricemia that the inhibition was also better. Liu Z., et al. (2009) observed the effect of Tibetan medicine *Qi weihuo dui duo ji (Qwld)* granule about uric acid nephropathy, renal function, blood lipids and renal tissue pathological changes in rats with uric acid

nephropathy. They were found that in model rats *Qwld* can significantly reduce blood uric acid, serum creatinine, cholesterol total and triglyceride levels, and alleviate renal tissue damage and ultrastructural changes caused by urate, especially in the high-dose group; this indicates that *Qwld* can also play a better role in the treatment of gout, and the main ingredients of Tibetan medicine *Qwld* are *Luoduiduoji* (Alpine Tibetan *Codonopsis radix*), *Corydalis radicans* Hand.-Mazz from *San Bei*, and *Pyrethrum tatsienense ling ex shih*, it has the effects of eliminating wind, dehumidifying, promoting blood circulation to remove blood stasis, relieving pain and reducing swelling; modern pharmacology research it is indicated that main ingredient of the *Qwld* can improve local blood circulation, reduce inflammation and promote tissue damage repair (Liu Z., et al., 2009).

Mongolian

Pathogeny and Pathogenesis

Gout is called "Tu Lie" in Mongolian medicine. It is believed that the cause of the disease is over-eating of fat, internal tissue damage, aged, irregular work and rest, leading to three-gen imbalances in the body, causing resulting in the imbalance of He(qi) and Qisu (blood), and the combination of Xieriwusu (yellow water) sinking into the bone and infiltrating into the joint, resulting in redness, swelling, heat, pain, limited mobility and other symptoms of the joint and surrounding soft tissue, which may eventually cause joint deformation and even cause disability (Bai Q.Y., 1991). Mongolian Medicine Nuomeng D.L., 2014) classified the gout into three categories: black-Tu Lie, white-Tu Lie, and hua-Tu Lie. The syndrome of black-Tu Lie is heat, swollen, red, pain refused to press, pulse high and smooth, urinary red and with steam of urinary, and its smell is large. White-Tu Lie see the affected part itching, heavy and difficult to move, touch senseless, stinging, muscle beating, swelling potential change is uncertain, sometimes loose, sometimes shrink, lump black or light blue spots, limb stiffness, toe curl, pain points with cold external application is slightly alleviated, pulse is weak but fast, urine is white, small odor. Hua-Tu Lie can see the skin become rough, itchy, with long sores, edema, joint pain. According to the principle of "dry yellow water, clear bad blood, dredge Qi and blood, dredge white veins", Mongolian doctors think (Zhang Y.B., et al., 2018) treatment of Tulie's disease should be based on the clinical symptoms and body constitution of patients, and the combination of internal and external treatment is used for syndrome differentiation and treatment variation. Mongolian doctors believe that human beings and nature are a whole. Therefore, in the treatment of the Tulie, specially emphasis is placed on the rationality of diet and behavioral living, in order to prevent and cure the disease and improve clinical efficacy.

Clinical Application

"Mongolian Internal Medicine" about the treatment of the Tulie used Garidi-5, Rheumatoid-25 flavor pill, Sendeng-4 soup, Zhenbao pills, Wuweirunjiaang soup, etc.; the other commonly used drugs have twenty-five miso blood pills, Ruyizhenbao pills, twenty-five flavors of Wenguanmu powder, eighteen flavors of mercury pills, thirteen flavor Pengniao pills, SanguoTangsan and so on. In recent years, there have been more and more research reports on Mongolian medicine for the

treatment of Tu Lie. For example, Xing Y.C. et al. (2017) used colchicine tablets and mongolian medicine Biechongzhaona to treat gout, it found that the curative effect of combination of western and mongolian medicine was higher than that of western medicine group. Hasi E.D. et al. (2010) used classical prescription to addition and subtraction to form modified Jiaweibarigeshunwuwei decoction to treat gout also achieved satisfactory clinical efficacy. Especially in the external application of medicines and acupuncture treatment, mongolian medicine has more prominent advantages, such as Wuren T.Y., et al. (2018) used Wuweiganlu powder to immersion the patient's both lower extremities of affected joint joints, which can achieve 100% therapeutic efficiency. Deng S.H.E.E. et al. (2017) with Mongolian medicine orally plus Mengruitiegao external application, the curative effect is significant; the total effective rate of gouty arthritis using Mongolian medicine Xiaozhongjiuwei San external application could reach 97.1%, which was higher than 77.1% of the control group of colchicine tablets, and the difference was statistically significant (Ta N., et al., 2017). About the silver needle treatment, Celei M.G.'s (2015) study group was treated with Mongolian medicine combined with Mongolian silver needle; the control group was treated with conventional western medicine, the total effective rate showed the study group (92%) was higher than the control group (72%), the difference was statistically significant. Compared with the traditional acupuncture and Mongolian acupuncture treatment, the research shows (Sharen T.Y., 2016) that Mongolian acupuncture has better clinical effect on relieving gout pain and reducing blood uric acid; Mongolian acupuncture therapy is a characteristic of Mongolian medicine in treating gout, and has a good development prospects. This therapy is a external therapy, which is use a unique needle to acupuncture the local acupoints and then heating the needle handle, it can promote local circulation of qi and blood, relieve pain and improve joint function, so as to cure the disease (Wulange R.L., 2014).

Experimental Research

Mongolian Xiaozhongjiuwei Powder is composed of *Potentilla discolor*, *Euphorbiae peginensis radix*, *Curcuma longa rhizoma*, *Polygonati odorati rhizome*, *Acorus calamus linnaeus*, *Asparagi radix*, *Rhei radix et rhizome*, *Yadahunag*, *Aconiti radix*. Modern pharmacology (Li L., et al., 2016) holds that *emodin* in *Rhei radix et rhizome* has a strong competitive inhibition on xanthine oxidase activity, which plays an important role in the formation of uric acid; so it can indirectly inhibit catalytic activity of xanthine oxidase for hypoxanthine and astragalus, thereby affecting uric acid production, and promoting uric acid excretion through the kidney; besides, it has analgesic and anti-inflammatory. *Curcuma longa rhizoma* has a bactericidal and anti-inflammatory effect.

Dai Nationality

Pathogeny and Pathogenesis

Dai doctors call gout which as "Long mengshahou". they believed that the disease is caused by the patient's preference for piquancy and dryness, heat, fat, and mellow wine, leading to the heat pathogen is accumulated inside the body, then, dysfunction of the "four towers" in the body, Ta long (wind) overflowing, Ta

lin(earth) blocked, and after exogenous evil(Paya-wind) invade the body, internal and external compatibility, resulting in qi stagnation and blood stasis, after, resulting in water tower injury, water does not control fire, excessive wind and fire, wind and disease pathogen retention limb joint, so that the disease happened(Lin Y.F., et al.,2007). Dai doctors divided gout into the Long shahou ta fei ta long xiang(Gouty joint, acute phase; wind, fire and pathogen are excesived) and the Long shahou ta long ta linruan(Gout arthritis, chronic phase; wind of tower and earth of tower are deficient).

Clinical Application

Dai doctors believe that in acute stage, heat-clearing and detoxifying drugs, dispelling wind and relieving pain should be used; the prescription used is Keluoleifengxiao addition and subtraction, drug composition: Keluo(*Tinospora sagittate*), hanhao nan- (*Acorus calamus Linnaeus*), Huang man (*Eclipta herba*), Mao ban wuhuanzi gen. Dai patent medicine can use Baijie capsule, Chufengzhitong Capsule. In the chronic period, it is advisable to use supplement earth and stomach, eliminating wind and relieving pain; the prescription selected is Hanmanbutuchufengzhitong decoction addition and subtraction, the drug composition is: Ha han man(*badu sangen*), Me gun(*renzishu*), hei duo ma(*ji shiteng*), bu lei(*huang jiang*), haoming(*Curcuma longa rhizoma*), he gu (*jiu chi doukou gen*), hei hang ai(*tong xuexiang*), guang di(*man jing gen*), la chang s- hu. The dai patent medicine can be used in Baijie capsule, Chu fengzhitong capsule and Jian weizhitong capsule (Huang Y., et al., 2015). The use of Dai medicine reduced the recurrence rate of gout patients and had definite curative effect. For example, Wang J.Y.(2003) used Dai medicine "Yajie" and "Yalongjiu", local physical therapy and Dai medicine "Hanmin-g", "Heiheluo", etc. to external application, combined with Western medicine anti-inflammatory drugs, the treatment efficiency can reach 100%. In addition, as for Dai medicine's external treatment, drug application is a major feature of its treatment of gout, such as Duan H. et al.(2008) using Shuijingdan external application to treat 135 cases of acute attack of gouty arthritis, it showed that the score of swelling, pain and joint function in the group treated with Shuijingdan was significantly lower than that in the control group, and the safety was higher; clinical observation such as Yu H. et al.(2017) found that the efficacy of Dai medicine fresh package therapy in the treatment of gouty arthritis could also reach 100%; and the application of traditional Chinese medicine combination Dai medicine such as Zhang X. et al.(2012), after one week of treatment, the improvement of clinical symptoms, laboratory biochemical indicators and total effective rate in the treatment group were better than those in the control group, and no adverse reactions were observed. Whether it is internal or external treatment, Dai doctors believe that it is necessary to implement treatment on the basis of syndrome differentiation in order to obtain better curative effect. Langxiang Kang is a famous Dai doctor who has very rich experience in the application of the theory of Yajie; in the external treatment, he attached great importance to the use of encapsulated drug therapy. In a word, Longxiang Kang holds that acute gouty arthritis should be treated internally or externally with Dai medicine, which can eliminate excessive evil and strengthen the body resistance, balancing the

four towers and restoring the function of diseased joints, on the basis of accurate disease differentiation and accurate syndrome differentiation, so that the symptoms and signs of the patients can be gradually eliminated, and then the acute gouty arthritis can be cured naturally(Pan L.W., et al.,2016). Pharmacological studies on Dai medicine for gout have not been reported.

Uyur Nationality

Pathogeny and Pathogenesis

Uyur medicine classifies gout as a "mucinous disease", that is, a disorder of humoral temperament. The body is heavily damp and cold, and the body is full of mucus, or the blood and black gallbladder are mixed with mucus, and the abnormal blood and black gallbladder are mixed with mucus, which cause blood stasis and dampness on the blood vessel wall, leading to a series of acute gout symptoms and signs.

Clinical Application

Wang Y.(2015) used Tongzhisurunjia Capsule to treat 30 cases of gouty arthritis, the clinical observation showed that the drug had a good effect in the treatment of gouty arthritis, the clinical symptoms and biochemical indicators were significantly improved, and the medication was safer. Lou J., et al.(1999) with Uyur medicines of Cishangan to external application to treat gout and rheumatoid arthritis, the results showed that the total effective rate for gout and rheumatoid arthritis was 90% and 60% respectively, and the clinical effect was better.

DISCUSSION

Gout is an ancient disease that has been dangerous to human health for thousands of years. With the change of people's diet, more and more people suffer from gout, which causes great economic burden to people. Ethnic medicine, as a part of traditional Chinese medicine, has been paid more and more attention in recent years. Ethnic medicine, which is excavated and sorted out, plays an important role in the treatment of many diseases. Ethnic medicine originates from thousands of years of experience in the treatment of diseases accumulated by ethnic minorities. Because of its simple, effective, inexpensive, diverse methods, low recurrence rate and so on, it is increasingly favored by gout patients. By collecting and sorting out the literature reports and books on gout of Tibetan, Mongolian, Dai and Uyur, nationalities in recent years, this paper summarizes them from the four nationalities of theory, method, prescription and medicine, with a view to providing reference for clinical treatment and research of gout. In conclusion, it is found that the prescriptions reported by the four nationalities have a good therapeutic effect on gout diseases, and the treatment methods are diverse. Each nationality has its own treatment characteristics and advantages, especially the application of external treatment in clinical practice. All these prescriptions give full play to the irreplaceable role of Western medicine and it is also a valuable asset for gout patients. But there are still some problems to be considered in the excavation and treatment of gout with national medicine: ① the treatment of gout in four ethnic groups is limited to their own experience and clinical observation, lacking of necessary experimental research and pharmacodynamic determination, and lacking of

scientificity; ②there are fewer cases of clinical observation, and lack of control group and statistics, so the significance of gout needs to be verified; ③the names of each ethnic group are different, and there is no unified standard in diagnosis and treatment, and most of the control groups are western medicine, the clinical efficacy and research among different ethnic groups are lack of crosscomparison; ④the quality of life and relapse of gout patients after treatment lack the necessary experimental data. Therefore, in the future research of ethnic medicine, we should start with experimental research to make the ethnic medicine fully scientific; formulate reasonable diagnostic and therapeutic criteria to make it unified; select more cases and have a control group to make it comparable; and collect necessary data for the study of recurrence rate, to provide evidence for "low recurrence rate". Crosscomparisons of drugs between different ethnic groups can be made to screen out better drugs for gout. China is a multiethnic country, and the distribution of ethnic minorities is uneven. Through modern science and technology, ethnic medicine is fully excavated to treat gout. Doctors combined with the idea of harmony of heaven and man, curing gout patients in every place according to climate-concerned treatment, environment-concerned treatment, individuality-concerned treatment, will become the ultimate goal of gout research.

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References

- Bai Q.Y., 1991. Chinese medical science. Mongolian medicine .Chifeng: Inner Mongolia science and Technology Press.
- Celei M.G., 2015. Clinical Observation on 25 Cases of Gout Treated by Mongolian Medicine and Silver Acupuncture. *Journal of Medicine & Pharmacy of Chinese Minorities*; 215:7-8.
- Danzheng X.X., 2017. Observation on the analgesic effect of "ZhiheMai" bloodletting therapy for gout. *Journal of Medicine & Pharmacy of Chinese Minorities*; 23(6):13-14.
- Dongzhi C.R., 2017. Tibetan medicine bloodletting therapy for 80 cases of gout. *China's Naturopathy*; 25(8): 80.
- Dangzeng C.R., NiangMao Z.X., 2015. Clinical application of Tibetan medicine Piperislongifrutus. Tangsan in gout bleedletting therapy. *Journal of Medicine & Pharmacy of Chinese Minorities*; 21(2):17.
- Deng Z., 2002. Qixing Acupuncture and Qingpeng of Tibetan medicine Paint for Gout. *Journal of Medicine & Pharmacy of Chinese Minorities*; 1: 25.
- Dan Q.J., 2017. Evaluation of the clinical effect of external treatment of gout by Tibetan medicine. *World Latest Medicine Information*; 17(41): 163,167.
- Deng S.H.E.E, Wu Y.H., 2017. Mongolian medicine orally applied externally to treat gout. *Journal of Medicine & Pharmacy of Chinese Minorities*; 23(1): 19-20.
- Duan H., Mu F.X., 2008. Clinical Observation of 135 Cases of Acute Attack of Gouty Arthritis Treated with Shuijingdan. *Sichuan Medical Journal*; 10:1347-1348.
- Gao X.J., Chen R.L., Song Y.F., 2018. Clinical characteristics and epidemiological study of primary gout. *China Health Standard Management*; 9(14): 15-17.
- Gazang J.M., Ma Y.L., 2006. Observation on the clinical efficacy of Tibetan medicine in the treatment of gouty arthritis. *Asia-Pacific Traditional Medicine*; 12.
- GongBa Z.X., 2017. Observation on the curative effect of internal medicine and external application of Tibetan medicine on gout. *Tibet Science and Technology*; 5:61,66.
- Hasi E.D., Qihe L.G., 2010. The experience of Mongolian medicine jiaweibarigeshunwuwei Decoction for the treatment of gout. *Journal of Medicine & Pharmacy of Chinese Minorities*; 16(7):54.
- Huang Y., Yu L.B., Yu H., et al., 2015. Dai Medical Treatment Scheme for Longshahou(Gout). *Journal of Medicine & Pharmacy of Chinese Minorities*; 21(1):23-24.
- LiMao (Da) C.R., 2014. Clinical Observation of 30 Cases of Chronic Gout Treated by Tibetan-Western Medicine. *Journal of Medicine & Pharmacy of Chinese Minorities*; 20(1): 23-24.
- Liu Z., Wang J.L., Li W.P., 2009. Effects of Tibetan medicine Qiweiluoduoduoji Granule on hyperuricemia and uric acid nephropathy in rats. *Jiangsu Journal of Traditional Chinese Medicine*; 41(1):72-73.
- Liu Z., Wang J.L., Zhou H.Y., et al., 2009. Experimental study on analgesic and antiinflammatory effects of Tibetan medicine Qiweiluoduoduoji Granule. *Jiangsu Journal of Traditional Chinese Medicine*; 41(8):74-76.
- Li L., Jiang H.J., Sun J.X., et al., 2016. Research progress of anti-gout traditional Chinese medicine and its mechanism. *Journal of Trauma and Emergency (Electronic Version)*; 4(2):110-113.
- Lin Y.F., Zhang C., Ye J.Z., 2007. Clinical medicine of Dai medicine. Chinese traditional Chinese Medicine Press.
- Lou J., Xie Y., 1999. 15 cases of gout rheumatism treated with Uygur medicine Cishanganguo. *Journal of Medicine & Pharmacy of Chinese Minorities*; 2:5.
- Nuomeng D.L., 2014. Clinical Diagnosis and Treatment of Tuli'e's Disease (Gout) in Mongolian Medicine. *Journal of Medicine & Pharmacy of Chinese Minorities*; 20(11): 31-32.
- Peng Mao C.D., 2014. Clinical analysis of the treatment of gout with Tibetan medicine sitting on the edge. *Journal of Medicine & Pharmacy of Chinese Minorities*; 20(3): 32.
- Pan L.W., Wang X.M., Huang Y., 2016. Experience of famous Dai doctor Langxiang Kang in the diagnosis and treatment of acute gouty arthritis. *Journal of Emergency in Traditional Chinese Medicine*; 25(12):2260-2264.
- Sun X.B., Li H.F., Dai Z.Q., 2005. Experimental study on the anti-gout effect of Tibetan prescription Maoruersan. *Pharmacology and Clinics of Chinese Materia Medica*; 5:49-50.
- Sun X.B., Li H.F., Dai Z.Q., 2005. Experimental study on the anti-gout effect of Tibetan medicine Sangdang. *Journal of Sichuan of Traditional Chinese Medicine*; 6: 19-20.

- Sharen T.Y.,2016. Clinical Observation of 63 Cases of Gout Treated by Silver Acupuncture of Mongolian Medicine. *Journal of Medicine & Pharmacy of Chinese Minorities*; 22(3): 13-14.
- Ta N., Li C.S., 2017. Clinical Study on External Application of Mongolian Medicine XiaozhongJiuwei Powder in the Treatment of Gouty Arthritis. *Asia-Pacific Traditional Medicine*;13(12):15-17.
- Wang X.L., Liu N., Qin T.N., et al.,2018. Research status and prospects of gout. *Rheumatism and Arthritis*;7(6): 68-70, 80.
- Wang B., 2017. Observation on the curative effect of Tibetan medicine and bloodletting therapy on gout. *Journal of Clinical Medical Literature* ;4(11): 201.
- Wuren T.Y., Bai Y., 2018.Treatment of 30 Case of Gouty Arthritis with Mongolian Medicine WuweiGanlu Decoction. *Journal of Medicine & Pharmacy of Chinese Minorities*; 24(3):27.
- WulangeR.L.,2014.Clinical Observation of Mongolian Medicine Acupuncture Therapy for Gout. *Journal of Medicine & Pharmacy of Chinese Minorities*;20(6):14-15.
- Wang J.Y., 2003.17 cases of Gout Treated by Dai Chinese and Western medicine. *Journal of Medicine & Pharmacy of Chinese Minorities*;3:15.
- WangY.,2015.Clinical Study on Tongzhisurunjia Capsule in the Treatment of Gouty Arthritis.Asia-Pacific Traditional Medicine; 11(6):121-122.
- Xing Y.C.,MaD.P.,2017.Clinical observation of mongolian and western medicine in the treatment of acute gouty arthritis. *Journal of Medicine & Pharmacy of Chinese Minorities*; 23(12):52.
- Ye RG, Lu ZY,et al.,2004.Internal medicine. 6 edition. Beijing: People's Health Publishing House.
- Yutuo Y.D.G.B.,1982. Four Medical Dictionaries(Tibetan). Lhasa:Tibet people's publishing House.
- Yang B.Z.X., 2015.Research on Tibetan Medicine Diagnosis and Treatment Program of Zhinai (Gout). *Journal of Medicine & Pharmacy of Chinese Minorities*;21(05): 40-41.
- Yu H., Yan H.D.,2017. 35 cases of gouty arthritis(longshahou) treated with Dai medicine fresh package therapy. *Journal of Medicine & Pharmacy of Chinese Minorities*; 23(4): 5.
- Zhang L, Zhu B, Sun L, et al., 2013. Study on the effects of diet and exercise on gout. *Journal of Harbin Medical Universit*; 47(4): 360-362.
- Zhuoma R.Q.,2018. Clinical observation of Tibetan medicine application therapy for ZhihouNai (gouty arthritis). *Journal of Medicine & Pharmacy of Chinese Minorities*; 24 (3): 11.
- Zhang Y.B., Bai J.S., 2018. Mongolian Medicine Experience in Gout Treatment. *Journal of Medicine & Pharmacy of Chinese Minorities*; 24(8): 23-25.
- Zhang X., Ang H., Yang Z.M., 2012. Randomized controlled clinical study of traditional Chinese medicine combined with Dai medicine in the treatment of acute gouty arthritis. *Journal of Practical Traditional Chinese Internal Medicine* ; 26(17): 34-35,37.
