Practice Reports

The Treatment of Eczema in Traditional Chinese Medicine: An Attempt at Westernisation

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Abstract

Although Western medicine makes extensive use of herbal extracts in its prescribing, from cancer treatments to antimalarial prophylaxis, there is a reluctance to approach one of the oldest and most established sources of medicinal herbs, namely traditional Chinese medicine (TCM). This is due, in part, to the perceived link between the doctrines of TCM and the herbs, making the latter unacceptable in Western prescribing practice with its insistence on an evidence-based rationale. Reviewing recent studies of the doctrines of TCM and Western studies of the action of Chinese herbs, we conclude that the two are not intrinsically linked. Some Chinese herbs have an action that can be explained in clear biochemical terms. Also, the mixtures of herbs, so characteristic of Chinese herbal medicine, may parallel the modern practice of combination therapy. These ideas are considered in the light of a recent effort to transform a Chinese herbal remedy for eczema into a treatment within Western prescribing practice. Problems were encountered because of the EU regulations with regard to herbal remedies but the results were promising and further research into the efficacy of Chinese herbal remedies is fully justified.

Keywords

Chinese herbal medicine, eczema, combination therapy, drug regulation

It is occasionally claimed that there is in the West a renewed interest in herbal medicine. In truth, herbal medicine has been eclipsed by the use of synthetic drugs for only a relatively short time. Until the 1950s, most drugs available to Western-trained doctors were herbal concoctions of one kind or another. Even one of the most effective groups of drugs developed before that time, the penicillins, were and still are, extracted from the broth in which *Penicillium* mould had grown. However, from the 1950s onwards, first as a trickle and then an avalanche, synthetic drugs appeared and these allowed doctors to treat conditions that had responded poorly to what herbal medicine had to offer. These drugs were discovered and developed in laboratories and manufactured

in chemical factories. In view of the amount of testing now required by law before the launch of a new drug, the cost of synthetic drugs is very high, far too high for many countries in the developing world. Moreover, the number of new, synthetic drugs coming to market has dramatically declined in recent years.

Western herbal cures

There are some drugs, although of recent development, that are obtained from plant sources rather than manufactured. One of the drugs of choice for the treatment of ovarian and breast cancer is taxol, found in the bark of the Californian yew tree (*Taxus brevifolia*). The chemical structure of taxol is known and it has been synthesised in a laboratory but the procedure is far too elaborate and costly for commercial manufacture so, for drug use, taxol is obtained from the yew tree.¹ What chemists find so difficult, the yew tree manages with effortless ease. There are many other examples of herbal sourcing that represent the pharmaceutical industry using plants as synthetic factories and then extracting the ‘active principle’ (i.e., the drug) from the plant, discarding all the other substances.

To a true herbalist extracting one component from the plant is not herbal medicine at all. The whole herb contains many biologically active substances that contribute, so an herbalist would claim, to the therapeutic action of the herb. How they do this is rather mysterious but the collective effect is an article of faith of herbalism. The adjunct substances may enhance the effect of the active principle in the herb so that it brings about a cure at much lower concentration and adverse side-effects are thus reduced. This explains why herbs are generally seen as milder and less harmful than synthetic drugs.

There is a feature of modern prescribing that may have relevance to the use of herbs and that is combination or multidrug therapy. In the treatment of a number of conditions it is now commonplace to use, not a single agent, but a mixture of drugs. One of the first conditions to benefit from this approach was tuberculosis and now combinations of anti-tuberculosis drugs are used routinely. There are plenty of other examples. For many years advanced Hodgkin’s disease was treated by single-agent therapy and the median survival rate was one year. With the introduction of ABVD (dioxorubicin, bleomycin, vinblastine, and dacarbazine) combination therapy the condition can be com-

¹ Holton *et al.* 1994, pp. 1599–600; Nicolaou *et al.* 1994, pp. 630–4.

pletely cured.² So superior is combination therapy that the WHO has tried to ban the use of single-agent therapy for the treatment of malaria.³ Drug combinations were originally introduced in an effort to prevent drug resistance occurring (as had happened with the antimalarial drug chloroquine) but how successful this has been is difficult to judge. However, with increasing use of combination therapy it has emerged that the interaction between drugs is rather more complex than had been supposed. Such interactions are broadly classified as additive, synergistic, or antagonistic. The last of these is, of course, negative in terms of therapeutic value and will not be considered further. The additive effect should be straightforward but is not. Drugs that have little activity against a pathogenic organism when used as a single agent can show much higher activity when used in combination with other drugs. A synergistic effect is where a substance, not itself a drug, enhances the effect of a substance that is. It is a singularly puzzling effect. The success of herbal medicine, difficult to understand in view of the low concentration of an active ingredient in a herb, could be explained by these additive and synergistic effects.⁴

Theoretical basis of Chinese medicine

In comparison with European herbalism, Chinese herbal medicine (CHM) is complex. The use of just one herb ('a single'), although not unknown, is uncommon; almost always a mixture of herbs is used. We will return to this later. Also, most Chinese herbalists are wedded to an elaborate system describing the workings of the human body and the causes of disease, a system that is difficult to equate with the discoveries of modern physiology and anatomy. The complexities of Chinese medical theory and the apparent arbitrariness of the components in the therapeutic recipes are barriers for Westerners seeking to assess the value of CHM.

We will first consider the theoretical basis of Chinese medicine or what Sivin has called the 'doctrines' of Chinese medicine.⁵ For centuries, Western medicine was conditioned by the theory proposed by Galen of the 'four humours' but this has been long ignored. In contrast, the doctrines of Chinese traditional medicine are still alive and well. The latest edition of the official Chinese pharmacopoeia uses both the vocabulary of modern physiology and

² Brody *et al.* 1994, p. 618.

³ Attaran *et al.* 2004, pp. 237–40.

⁴ Butler and Keating 2011, pp. 170–3.

⁵ Sivin 2000, pp. 42–5.

pharmacology as well as that of traditional medicine.⁶ Almost every popular book on Chinese herbal cures describes their properties using the traditional terms. If we are to take CHM seriously and to learn from the experiences of Chinese physicians acquired over many centuries do we have to subscribe to the doctrines as well?

Ackerknecht has argued that medical doctrines are a reflection of the culture of the society in which they were conceived.⁷ This is certainly true of China where the multitude of different cultures that existed throughout the country led to the presence of a vast array of medical doctrines. As cultural patterns changed so did the medical doctrines and when the first Western physicians arrived in China they encountered a wealth of different medical doctrines.⁸ The first attempt at a systematic account of these doctrines is contained in the *Yellow Emperor's Inner Canon: Basic Questions* (*Huangdi neijing suwen*, 黄帝内经素问), anonymously compiled in the first century BCE. However, the latest scholarship on this work suggests that it is a layer of texts from the first and second centuries BCE but subject to significant rearrangements, emendations, and additions in post-Han centuries, culminating in the contribution of Wang Bing in the eighth century CE.⁹ There is a recent translation by Unschuld and Tessenow that benefits from the latest scholarship.¹⁰ The *Huangdi neijing suwen* has a place in Chinese medical history comparable to that of the now discarded Hippocratic writings and is still consulted by practitioners of TCM. Not only would it be very difficult, it would also be out of place, to attempt to summarise it. Although the doctrines have varied from age to age, the basic ideas have remained constant. The health of the body depends upon the balance of *yin* and *yang*, the correct disposition of the five phases (*wuxing* 五行), and the harmonious flow of *qi* around the body. The role of the physician is to restore these so that they function properly. The scholars who formulated these doctrines had little knowledge of human anatomy and physiology and the doctrines are not in any sense evidence-based. It is possible to see that these ideas may have arisen by considering the body as a city, the governance of which the Chinese understood well. This parallelism is beautifully illustrated by a long quotation from the *Huangdi neijing suwen* given by Unschuld.¹¹ Harmony, balance, and control give life and success to a city and so it is with the human body. The ancient Chinese were not the only

⁶ Anon. 2000.

⁷ Ackerknecht 1942, pp. 545–74.

⁸ Hanson 2006, pp. 115–70.

⁹ Unschuld 2003, pp. 1–3.

¹⁰ Unschuld and Tessenow 2011.

¹¹ Unschuld 2010, p. 100.

people to draw a parallel between the city and the human body. Francesco di Giorgio, an Italian writer of the fourteenth century much admired by Leonardo da Vinci, talks of ‘the similarity of a city to a human body’¹² and in his own writings Leonardo says ‘just as man has in himself the lake of blood so the body of the earth has its oceanic seas, which likewise increase and decrease energy every six hours with the breathing of the world’.¹³ The critical appraisal of manuals of Chinese medical theory is best undertaken by historians rather than by scientists.

Chinese pharmacy

Alongside medical theory there was in ancient and medieval China another approach to illness: prescribing cures, largely but not exclusively herbs, for the treatment of the illnesses that befall humankind. Over the centuries details of the therapeutic herbs were collected and published in volumes known as *bencao* (本草), i.e., materia medica. The earliest of the *bencao*, the *Divine Husbandman’s Materia Medica* (*Shennong bencao* 神農本草), was compiled in the first century BCE and many others were produced over the subsequent centuries, reaching a climax in the publication of the *Bencao gangmu* (本草綱目 *Compendium of Materia Medica*, [Arranged according to Drug Description and Technical Aspects]) by Li Shizhen 李時珍 (1518–1593) in 1596 CE, which lists over 1800 medicinal herbs. How we view modern TCM depends to some extent on how far the remedies found in the *bencao* are linked to the doctrines of classical TCM.

Needham, the great historian of all things scientific and medical in medieval China, was in no doubt about the link. He held that that Chinese medicine was a single body of knowledge derived directly from empirical findings. The Chinese may have been deficient because they lacked the correct tools for studying the human body but what they asserted may contain ‘heralds’ of what modern science now understands about the human body. He saw Chinese medicine as a river following into an ocean that is modern science. Other rivers include Greek and Ayurvedic medicine, but modern science is the unifying destination of them all. This view is fully expounded throughout Needham’s writings and by Ho and Lisowski.¹⁴ In opposition to this view, Unschuld sees little connection between the doctrines of Chinese medicine and the empirical prescribing to be found in the *bencao*. In his discussion of the

¹² Kemp 1981, pp. 115–19.

¹³ Manioscritti 1941, A.55v.

¹⁴ Ho and Lisowski 1993.

Huangdi neijing suwen, he suggests that Section 74 is really the birth of prescription pharmacy and remarks that ‘neither the yin-yang nor the five-agents doctrine are taken into account here’.¹⁵ The doctrines were the speculations of scholars—detached and intellectually curious—and changed in step with cultural changes but the cures were the province of artisans interested in earning a living by offering hope to suffering humankind and the cures remained remarkably constant. The compilers of the *bencao* may have been scholars but they merely assembled material that had been unearthed by others. Unschuld sums up the dilemma for those trying to assess the value of Chinese for the current time as follows:

Are these foundations (the doctrines) required to understand Chinese medicine and practice it successfully, or can the substances and techniques used in Chinese medicine be effectively separated from their traditional background and explained in terms of modern science without becoming useless?¹⁶

His answer is an unequivocal yes and one with which we concur. When the separation is made one of the barriers to the use of the *bencao* is removed and the valuable discoveries contained therein may be utilised in the modern treatment of disease.

In a limited but valuable way this has already been done. *Mahuang* 麻黄 (*Ephedra sinica*) is mentioned in the *Bencao gangmu* as a treatment for impaired circulation and coughing. Its medicinal properties were rediscovered in the West when ephedrine was extracted from the plant and used, initially as a mydriate and, later, for the treatment of asthma and chronic obstructive pulmonary disease.¹⁷ The extraction of artemisinin (*qinghaosu* 青蒿素) from *Artemisia annua*, described in the *bencao* as a treatment for ‘intermittent fever’, has given us a wonder drug for the treatment and containment of malaria.¹⁸ An account of the use of saltpetre (potassium nitrate, *xiaoshi* 消石) for the relief of angina in a Dunhuang medical manuscript is a perceptive piece of empirical prescribing that can be rationalised by recent discoveries in cardiac physiology.¹⁹

Our attempt to understand (or perhaps ‘appreciate’ would be a better term) CHM in terms of current pharmacology is complicated by another common feature of CHM. Rarely are ‘singles’ (i.e., solitary herbs) used to treat a human ailment. There is a simple rationale behind this practice, succinctly stated by

¹⁵ Unschuld 2003, p. 312.

¹⁶ Unschuld 2003, p. 323.

¹⁷ Sneader 1996, p. 165.

¹⁸ Butler *et al.* 2008, pp. 172–7.

¹⁹ Butler and Moffett 2009, pp. 173–85.

Li and Wei: 'As most diseases are complex, the use of a single herb is not normally sufficient to obtain a good curative effect.'²⁰

The prescription a Chinese physician gives is likely to be a mixture of herbs, perhaps up to ten. Traditionally, the herbs are ranked in a manner reminiscent of the rulers of a city; indeed, the character used for rank (*pin* 品) means also the rank of a bureaucratic official. Some herbs in the mixture are put in the upper ranks: 'rulers' (*jun* 君) and 'ministers' (*chen* 臣) and others in the lower ranks: 'assistants' (*zuo* 左) and 'aides' (*shi* 使). While it is relatively easy to assess the pharmacological impact of a single herb, doing so for a mixture of ten is too costly to contemplate, particularly as herbs contain variable amounts of the active components according to the conditions under which they were grown and when they were harvested. Sivin posits the 'impossibility of evaluating the cures claimed or implied by the recipes used in ancient Chinese compound formulas'.²¹ Fortunately, this is not entirely true due to collaboration between a distinguished British dermatologist, David Atherton, a practitioner of TCM based in London, and the pharmaceutical company Phytopharm. First, we must take a brief look at the common and debilitating skin condition of eczema. The term comes from the Greek 'to boil out' (έκ = out, ζέιν = boil) and indicates that as the skin blisters it seems to be bubbling up.

Treatment of eczema

In considering the application of an ancient remedy there is the immediate problem of diagnosis as modern doctors make more refined diagnoses than those of former times. The modern diagnosis of eczema is complicated by the fact that many dermatologists do not make a distinction between eczema and dermatitis. Atopic eczema (atopic means 'unusual' and indicates that the condition has no clear cause, unlike contact dermatitis) is common amongst children (20% suffer from it). The single-most distinguishing feature is pruritus (itching) and there is often a family history of the condition. The itching has a low threshold and intensifies in the evening, disturbing the sleep pattern.²² Thus the characteristics of atopic eczema are readily recognised and require no sophisticated diagnostic procedures. The term for atopic eczema in the *Traditional Chinese Medicine Dictionary* (*Han-ying ying-han zhongyi dacidian* 漢英英漢中醫大詞典)²³ is '*teyingxing shizhen*' (特應性濕疹) but the distinction

²⁰ Li and Wei 2002, pp. 6–7.

²¹ Sivin 2000, pp. 34–6.

²² Mallory *et al.* 2005, pp. 49–71.

²³ Anon. 2002, pp. 95–6.

from other forms of eczema shown in the dictionary suggests the influence of modern dermatology and may not hold for older forms of TCM. In an older source, the *Compendium of External Medicine* (*Waikē dacheng* 外科大成) published in 1665 by Qi Kun 祁坤 (ca. mid-17th c.), the term ‘*siwan feng*’ (四彎風, wind of the four crooked) is used and comes from the typical lesions of atopic eczema. In Western medicine the first line of treatment is the use of corticosteroids but these have both dermatological and systemic effects. The former include skin atrophy, striae, and reduced cutaneous natural killer cell activity. The adverse systemic effects are due to corticosteroid absorption and are more serious in children as they have a higher body surface-area-to-weight ratio. The most common fear amongst patients is skin thinning and, even if the eczema is temporally cured, it can return in an even more virulent form. Topical application of corticosteroids cannot be seen as an entirely satisfactory treatment as the cause of eczema may be a fault in the immune system and require internal treatment. Two reviews of randomised-controlled trials of systemic agents show that, although oral agents can have significant benefits in cases of severe atopic eczema that are resistant to topical treatment, they also cause serious adverse reactions.²⁴ Atopic eczema can cause a great deal of distress to children and is not an easy condition to handle.

The therapeutic properties of Chinese herbs in the treatment of eczema had not escaped the notice of some Western physicians. In 1990, David Atherton, a dermatologist at Great Ormond Street Hospital for Sick Children in London, noticed that several of his patients with eczema were improving dramatically, while others receiving the same treatment were not. When asked whether they were trying alternative therapies, the patients’ parents admitted that they were consulting a Chinese herbal doctor, Luo Dinghui, who ran a clinic in Soho. Each of Dr Luo’s prescriptions was individually tailored to a patient and her success was such that every morning queues snaked down the street from outside the door of her practice and only the first 50 were able to get a consultation. At least 80% of the patients who received Dr Luo’s herbal medication derived substantial benefits from it without any adverse side-effects after six months of treatment. Renal, hepatic, and bone marrow function screening, including a full blood count, urea, and electrolyte levels were performed before and after treatment and revealed no abnormalities. The anecdotal evidence of the treatment’s efficacy was such that Dr Atherton and his colleagues, with the help of Dr Luo, formulated a standardised herbal mixture for the treatment of atopic eczema. Dr Atherton was further motivated by the fact that many of his patients were suffering from a damaged

²⁴ Schmitt *et al.* 2007, pp. 100–11; Sidbury and Hanifin 2000, pp. 559–66.

immune system and acquired a ‘moon face’ due to the use of corticosteroids. An open pilot study was conducted with ten paediatric patients and six adults. The former group was prescribed four weeks of treatment and the latter underwent eight weeks. Nine of the ten children and five of the six adults displayed significant improvement in their condition, with no abnormalities found after haematological and biochemical screening.²⁵

Clinical trials

Following the initial promising study, the formula was taken up and developed by Phytopharm, a UK-based pharmaceutical company that uses plant-based material. A placebo-controlled, double-blind, cross-over trial of the formula was undertaken, using quality-controlled materials, by Sheehan and Atherton.²⁶ The recipe contains ten herbs, all of which are in general use within CHM: *Ledebouriella sesloides* (*fangfeng* 防風), *Potentilla chinensis* (*weiling cai* 委陵菜), *Akebia trifoliata* (*mutong* 木通), *Rehmannia glutinosa* (*sheng dihuang* 生地黃), *Paeonia lactiflora* (*chishao* 赤芍), *Lophatherum gracile* (*danzhu ye* 淡竹叶), *Dictamnus dasycarpus* (*baixian pi* 白鮮皮), *Tribulus terrestris* (*baiji li* 白蒺藜), *Glycyrrhiza uralensis* (*gancao* 甘草), and *Schizonepeta tenuifolia* (*jingjie* 荆芥). The herbs were given to the patients in two sachets, a larger one containing the majority of the herbs and a smaller one that contained the volatile ingredients that would be lost during prolonged boiling. Doses were age-dependent and the parents were taught to prepare the remedy by boiling the ingredients from the larger sachet in 600 ml water for 90 minutes before adding the constituents of the smaller sachet and boiling for a further three minutes. During the prolonged boiling the volume was reduced to 100 ml, a long and troublesome process. The placebo was composed of inert plant material of similar taste, smell, and appearance to the active preparation. The medication was taken orally. Nearly 50 children were recruited and divided into two groups. The first group received eight weeks of treatment with the active formula followed by a four-week ‘wash-out’ period and then eight weeks of treatment with the placebo. The severity of the patients’ eczema, including erythema, surface damage, and affected surface area, was assessed throughout the duration of the study. The parents were asked to fill out questionnaires about the children’s sleep as well as looking out for any evidence of possible adverse side reactions. At the end of a five-month trial period 37 children

²⁵ Sheehan *et al.* 1992, pp. 13–17.

²⁶ Sheehan and Atherton 1992, pp. 179–84.

remained, the other ten having withdrawn. The results showed a 51% reduction in erythema and a 63.1% reduction in surface damage during the active phase of the treatment, compared with 6.1% and 19.2% in the placebo phase. This study seems to support the anecdotal evidence of the therapeutic value of Dr Luo's herbal remedies.

A twelve-month follow-up study was conducted in 1993 in which all 37 patients who had completed the first drug trial elected to participate.²⁷ By this stage the formula had been named Zemaphyte (a *portmanteau* term made up of 'eczema' and 'Phytopharm'). Zemaphyte was administered to the participants on a daily basis until a 90% reduction erythema and surface damage was achieved, at which point dose frequency was reduced to six-week intervals provided that the level of benefit was maintained. They were seen every three months to monitor eczema severity, treatment compliance, emollient, and corticosteroid use and any sign of adverse reactions. Of the 23 children who completed the study seven were able to discontinue treatment altogether; 11 required Zemaphyte until the end of the trial period but eventually achieved a 90% severity reduction, one showed a reduction between 60 and 89% and the remaining four showed between 30 and 59% reduction. At the end of the two studies, 24% of the original 42 participants had withdrawn due to unpalatability or preparation difficulty and a further 24% due to lack of benefit. All the children who remained in the study until the end displayed a substantial improvement in their condition. However, because atopic eczema is idiopathic assessing the possibility of spontaneous remission is difficult. Furthermore, as emollients and antihistamines were administered at the same time as Zemaphyte, it is difficult to be certain that it deserves exclusive merit for the observed improvements. However, the results do suggest that the apparently miscellaneous combinations of herbs so characteristic of CHM have definite therapeutic value.

Two subsequent studies were conducted on Zemaphyte to try and assess its mechanism of action.²⁸ Previous research has shown that patients suffering from atopic eczema have higher levels of CD23 receptors, a type of low-affinity IgE receptor, than healthy individuals. Their expression can be induced by interleukin-4 (IL-4), which has also been found in higher levels in sufferers than in normal individuals. These results suggest IL-4-induced CD23 receptor expression is involved in the pathogenesis of eczema. Both studies looking at Zemaphyte showed that it significantly reduced CD23 expression, with the study by Latchman *et al.* specifying that it was IL-4-induced CD23 expression

²⁷ Sheehan *et al.* 1995, pp. 136–40.

²⁸ Xu *et al.* 1997, pp. 54–9; Latchman *et al.* 1995, pp. 592–8.

that was specifically targeted. However, Latchman *et al.* also noted that '[T]he overall efficacy of the decoction is likely to be multifactorial, and further studies are required to analyze its precise mechanism of action.'²⁹ The suggestion that the efficacy of Zemaphyte is multifactorial ties in with what is known of the mechanism of action of modern combination therapies.

Regulation of herbal remedies

Although it was prescribed to a small number of patients at Great Ormond Street Hospital, Zemaphyte was never granted a licence and Phytopharm discontinued its research into developing the drug. A former consultant to the company explained that the main reason for this was that the manufacture of Zemaphyte resulted in a financial loss for Phytopharm.³⁰ Prior to April 2004, European guidelines concerning the development and marketing of herbal medicines required only that the manufacturer compile a dossier containing details of the product. The dossier had to include biochemistry, microbiology, and toxicology test results that ensure the drug's quality and safety, as well as detailed references to published scientific literature regarding the efficacy of the components of the herbal mixture. Manufacturers must also ensure that their product has the same:

Qualitative and quantitative composition in active substances and the same pharmaceutical form as the reference medicinal product, and [their] bioequivalence with the reference medicinal product has been demonstrated by appropriate bio-availability studies.³¹

In the case of Zemaphyte, this meant that the ten herbs had to be sourced, collected, and extracted individually and levels of specific chemical markers within each one had to be tested to ensure the 'batch-to-batch homogeneity of the products concerned'. This was a very costly and time-consuming process and the reason why the production of Zemaphyte was not financially profitable. In April 2004, these guidelines were further tightened with the introduction of the European Traditional Herbal Medicinal Products Directive.³² It stated that no new herbal medicine could be introduced on the market without first being granted a licence by the Committee for Herbal Medicinal Products. In order to receive this licence the manufacturer had to present data

²⁹ Latchman *et al.* 1995, pp. 592–8.

³⁰ Dr Daryl Rees, personal communication, 2004.

³¹ Directive 2001/83/EC 2001.

³² Directive 2004/24/EC 2004.

not only to prove the medicine's safety (as was the case with the previous directive), but also the medicine's efficacy, rather than just the efficacy of its component parts. Furthermore, bibliographical or expert evidence must be presented to the effect that the product had been in medical use over a period of 30 years within the EU. If it had been in use for less than fifteen years, the Committee for Herbal Medicinal Products would review the evidence supporting its safety and efficacy and consider whether the licensing criteria were complied with. All in all, the guidelines made the manufacture and licensing of Zemaphyte a very complicated and costly process.

Latchman *et al.* found that 'extracts from only four of the plants have [the] ability to inhibit CD23'.³³ After biochemical analysis of the formula, three of the original ten herbs (*Glycyrrhiza uralensis*, *Paeonia lactiflora*, and *Rehmannia glutinosa*) were selected by Phytopharm to produce a second-generation drug called P07P, later named Phytopica, based on Dr Luo's formula but containing fewer herbs. It was no longer aimed at treating human patients; Phytopica was developed for canine sufferers. A randomized, double-blind, placebo-controlled study was conducted and found a 37.5% reduction in pruritus in dogs treated with P07P, compared with a 13% reduction in dogs receiving placebo. The drug was readily accepted by the dogs and caused minimal side-effects (all of which were gastrointestinal in nature). Since it is developed from just a third of the herbs that make up Zemaphyte, and yet can be marketed at the same price as the human drug, Phytopica is profitable and its production continues. This raises the question that if the combination of three herbs is almost, if not equally, as effective as the combination of ten herbs, causes minimal side-effects, and yet its manufacture costs a fraction of the price, then could it not be licensed for human use also? The problem that arises is that the optimum dose in dogs is 200mg/kg/day. Assuming the same dose would be required in adults, an average 70kg human would need to take 14g of Phytopica per day. This is a very large dose of medication and could be troublesome to the patient, especially since eczema is a chronic condition that requires long-term treatment.

The demise of Zemaphyte, although moderately successful as a treatment, had three causes. Firstly, the cumbersome nature of the ten-herb remedy (supplying in two sachets, boiling for 90 minutes before adding the second sachet) is completely different from modern prescribing practice where compliance is ensured (more or less) by simplicity, ideally one dose per day taken by mouth. Second, the manufacturing costs were too high because of the new EU legisla-

³³ Latchman *et al.* 1995, pp. 592–8.

tion. Third, there was the possibility of liver damage.³⁴ However, the whole episode is valuable in that it gives positive, experimental support to the authenticity of at least one recipe typical of CHM in the treatment of a condition that Western medicine finds difficult to cure. If only we knew why that combination is effective. What component in each herb is the active ingredient that contributes to the overall effect? Does that critical combination have any parallels with modern combination therapy? Xu discussed some of the problems in the Westernisation of TCM in an authoritative review.³⁵

Conclusions

A herbal cure taken by mouth is difficult to discuss further as some of the ingredients may be chemically modified within the body and become biologically effective only after ingestion. It would be easier to examine a topical treatment for eczema and there are plenty in CHM. We have chosen one to be found in a modern compendium of herbal cures by Li and Wei.³⁶ The combination of herbs is:

Sophora flavescens (*kushen* 苦参)
Fruit of cnidium (*shechuangzi* 蛇床子)
Phellodendron chinense (*huangbai* 黄柏)
Schizonepeta tenuifolia (*jingjie* 荆芥)

As far as we know there has not been an attempt to test the efficacy of this combination by experimental means but the fact that it has survived for so long in the practice of CHM suggests that some success has been achieved clinically. A study of this combination quickly reveals an interesting fact: the first three ingredients are all described, in the *Bencao gangmu* (*Systematic materia medica*, 1596), as singles for the treatment of skin conditions. Combining them is doing no more than what modern physicians do when they use mixtures of drugs in the treatment of, for example, tuberculosis or Hodgkin's disease, as described earlier. In this instance, it would appear that Chinese physicians discovered the principle of modern combination therapy a long time ago. There is experimental evidence from work on folk medicine in Mali that a mixture of herbal extracts, each of which is an antimalarial agent, has an antimalarial effect greater than the sum of the parts.³⁷ This rationale for the

³⁴ Graham-Brown 1992, p. 673.

³⁵ Xu 2011, pp. S90–92.

³⁶ Li and Wei 2002, pp. 184–6.

³⁷ Azas *et al.* 2002, pp. 165–71.

selection of herbs is not quite the same as that generally thought to govern the selection of herbs for inclusion in a mixture in Chinese Traditional Medicine, where each component is chosen because of its unique role in the healing process. This may be, *inter alia*, countering an adverse side-effect, enhancing the effect of the principal herb, improving shelf-life or enhancing the flavour. Research is needed to see how these divergent views may be reconciled.

Suggesting a role for *jingjie* (the aerial part of *Schizonepeta tenuifolia*) is more difficult because of a problem of nomenclature. According to Li Shizhen³⁸ it has a variety of names but was named thus in the *Wu Pu Bencao* (吳普本草 *Wu Pu's materia medica*, ca. 3rd c.); Wu Pu was a third-century medical writer. Li continues: '*Jingjie* is a commonly used drug (a vegetable). To be used with caution. It has a variety of effects.' Elsewhere the *Bencao gangmu* states that *jingjie* is a primary ingredient of medicines for treating skin sores. Its effect may be synergistic and there is experimental evidence for such synergy.³⁹

The attempt to westernise a CHM treatment for eczema, although not successful as a therapy suitable for regular use, has value in giving some understanding of CHM using the insights of modern science. If the 'active principle(s)' of each herb could be ascertained and then combined in the manner of Western combination therapy then a new, convenient treatment might emerge. In view of the shortcomings in the current treatment for severe atopic eczema, this would be a significant achievement. Perhaps the last word should go to Dr Atherton: "I remain convinced that traditional Chinese medicine has something to offer in the West, and that we should be taking more interest in it, for the sake of our patients."⁴⁰

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³⁸ Li Shizhen 2006, volume 14, pp. 1416, 1483, 1584, 3004.

³⁹ Dr David Atherton, in an interview with Michelle Grayson, July 2011.

⁴⁰ Ibid.

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