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[Intervention Review]

Single herbal medicine for diabetic retinopathy

Hong Wei Zhang[1], Hongying Zhang[2], Suzanne J Grant[3], Xia Wan[4], Guochun Li[5]

[1]School of Chinese Medicine, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong, China. [2]School of Traditional Chinese Medicine & Pharmacology, Capital Medical University, Beijing, China. [3]National Institute of Complementary Medicine, University of Western Sydney, Sydney, Australia. [4]Department of Epidemiology and Statistics, Institute of Basic Medical Sciences of Chinese Academy of Medical Sciences & School of Basic Medicine of Peking Union Medical College, Beijing, China. [5]Department of Epidemiology and statistics, Nanjing University of Chinese Medicine, Nanjing, China

Contact address: Hongying Zhang, School of Traditional Chinese Medicine & Pharmacology, Capital Medical University, No. 10 of the Xitoutiao outside the YouAnmen, Beijing, China. zhongyi@ccmu.edu.cn.

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ABSTRACT

Background

Diabetic retinopathy is one of the major causes of blindness and the number of cases has risen in recent years. Herbal medicine has been used to treat diabetes and its complications including diabetic retinopathy for thousands of years around the world. However, common practice is not always evidence-based. Evidence is needed to help people with diabetic retinopathy or doctors to make judicious judgements about using herbal medicine as treatment.

Objectives

To evaluate the effectiveness and harm of single herbal medicine for diabetic retinopathy.

Search methods

We searched CENTRAL, which contains the Cochrane Eyes and Vision Trials Register, MEDLINE, Embase, OpenGrey, the ISRCTN registry, ClinicalTrials.gov and the ICTRP. The date of the search was 12 June 2018. We also searched the following Chinese databases in June 2013: Chinese BioMedical Literature Database (CBM), Traditional Chinese Medical Literature Analysis and Retrieval System (TCMLARS), Wanfang China Dissertation Database (CDDB), Wanfang China Conference Paper Database (CCPD) and the Index to Chinese Periodical Literature.

Selection criteria

We included randomised controlled trials (RCTs) and quasi-RCTs that investigated the effects of any single herb (or extracts from a single herb) as a treatment for people with diabetic retinopathy. We considered the following comparators: placebo, no treatment, non-herbal (conventional) medicine or surgical treatment.

Data collection and analysis

Two review authors independently extracted data and assessed the risk of bias in the studies. Our prespecified outcomes were: progression of diabetic retinopathy, visual acuity, microaneurysms and haemorrhages in the retina, blood glycated haemoglobin A1c (HbA1c) (%) and adverse effects. We performed meta-analyses using risk ratios (RR) for dichotomous outcomes and mean differences (MD) for continuous outcomes, with 95% confidence intervals (CI). We assessed the certainty of the evidence using GRADE.

Main results

We included 10 studies involving 754 participants, of which nine were conducted in China and one in Poland. In all studies, participants in both groups received conventional treatment for diabetic retinopathy which included maintaining blood glucose and lipids using medicines and keeping a stable diabetic diet. In three studies, the comparator group also received an additional potentially active comparator in the form of a vasoprotective drug. The single herbs or extracts included Ruscus extract tablet, Sanqi Tongshu capsule, tetramethylpyrazine injection, Xueshuantong injection, Puerarin injection and Xuesaitong injection. The Sanqi Tongshu capsule, Xueshuantong injection and Xuesaitong injection were all made from the extract of Radix Notoginseng (San qi) and the main ingredient was sanchinoside. The risk of bias was high in all included studies mainly due to lack of masking (blinding). None of the studies reported the primary outcome of this review, progression of retinopathy.

Combined analysis of herbal interventions suggested that people who took these herbs in combination with conventional treatment may have been more likely to gain 2 or more lines of visual acuity compared to people who did not take these herbs when compared to conventional intervention alone at the end of treatment (RR

• None of the studies reported on the progression of diabetic retinopathy.

• The studies provided low-certainty evidence that herbal extracts may have increased the chances of visual improvement (being able to read 2 or more additional lines on an Eye chart, which is used to measure visual acuity).

• The Cochrane researchers judged the evidence on some of the signs of diabetic retinopathy (such as reduction in blood vessels bleeding at the back of the eye) as being very low-certainty.

• Similarly, there was low-certainty evidence as to the effect of herbal extracts on blood sugar levels but the available evidence suggested little effect.

• Most of the studies did not report on side effects. Two studies reported minor side effects such as uncomfortable stomach, itching, dizziness and headache.

How up-to-date is this review?

The Cochrane researchers searched for studies that had been published up to June 2018.

SUMMARY OF FINDINGS FOR THE MAIN COMPARISON [Explanation]

Single herb plus conventional intervention versus conventional intervention for diabetic retinopathy

Patient or population: people with diabetic retinopathy
Settings: hospital
Intervention: single herbal medicine plus conventional intervention[a]
Comparison: conventional intervention

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of participants (studies)	Certainty of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Control	Single herbal medicine				
Progression of retinopathy	-	-	-	-	-	None of the studies reported this outcome.
Visual acuity (gain of ≥ 2 lines) (end of treatment)	250 per 1000	315 per 1000 (270 to 370)	**RR 1.26** (1.08 to 1.48)	541 (5 studies)	□□□□ **Low**[b,c]	-
Reduction in microaneurysms	1 per 1000	18 per 1000 (1 to 205)	**RR 17.9** (1.05 to 305.26)	146 (1 study)	□□□□ **Very low**[b,d]	None of the control group experienced a reduction. We estimated risk of 1 per 1000 in the control group for illustrative purposes
Observations in retina: reduction in haemorrhages	1 per 1000	26 per 1000 (2 to 438)	**RR 26.3** (1.59 to 437.56)	146 (1 study)	□□□□ **Very low**[b,d]	None of the control group experienced a reduction. We estimated risk of 1 per 1000 in the control group for illustrative purposes

HbA1c (%)	The mean HbA1c ranged across control groups from 7.5% to 8.3%	The mean HbA1c in the intervention groups was on average the same as the control group (i.e. MD 0, 95% CI -0.58 to 0.58)	-	215 (2 studies)	□□□□ **Low**[b,c]	-
Adverse outcomes	-	-	-	687 (6 studies)	□□□□ **Very low**[b,d]	In 8/10 included studies, there was no report of observation on adverse outcomes. 2/80 (2.5%) participants reported uncomfortable stomach and 1/80 (1.25%) participants reported urticaria who orally took Sanqi Tongshu capsule. 2/52 (3.85%) participants reported dizziness and headache who received intravenous drip infusion of tetramethylpyrazine injection

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).
CI: confidence interval; **HbA1c:** glycated haemoglobin A1c; **RR:** risk ratio.

GRADE orking Group grades of evidence
High-certainty: we are very confident that the true effect lies close to that of the estimate of the effect
Moderate-certainty: we are moderately confident in the effect estimate: the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different
Low-certainty: our confidence in the effect estimate is limited: the true effect may be substantially different from the estimate of the effect
Very low-certainty: we have very little confidence in the effect estimate: the true effect is likely to be substantially different from the estimate of effect

[a]Single herbal medicines include Puerarin, tetramethylpyrazine and Radix Notoginseng extract. The conventional intervention generally included oral medicine or insulin for maintaining blood glucose and lipid and maintaining a stable diabetic diet.

[b]Downgraded 1 level for high risk of bias because of lack of masking (particularly with subjective outcomes) and lack of allocation concealment.

[c]Downgraded 1 level for imprecision as the confidence intervals include, or are close to, null effect

[d]Downgraded 2 levels for imprecision as very few events.

BACKGROUND

Description of the condition

Diabetic retinopathy is a disease of the retina that occurs as a complication of diabetes mellitus. It is characterised by progressive microvascular complications, such as microaneurysms, inter-retinal oedema, haemorrhages, hard exudates and intraocular pathological neovascularisation. Diabetic retinopathy is the leading cause of blindness among people of working age in high-income countries (Bunce 2006). It accounted for 1.9% of moderate or severe visual impairment and 2.6% of blindness globally in 2010 (Bourne 2013). The global prevalence of diabetes has nearly doubled since 1980, rising from 4.7% to 8.5%, and an estimated 422 million adults were living with diabetes in 2014 (WHO 2016). The prevalence of any retinopathy in people with diabetes is 35% while proliferative (vision-threatening) retinopathy is 7% in 2010 (Yau 2012).

Diabetic retinopathy is classified and graded using two main scales, the Early Treatment Diabetic Retinopathy Study (ETDRS) staging system and, more recently, the scale developed by the International Council of Ophthalmology. The ETDRS severity scale is based on the modified Airlie House classification of diabetic

Visual acuity might be measured as the numerical value on the chart or dichotomous data (change of 2 or more lines of acuity or not) after the treatment.

- Observations in retina detected by ophthalmoscopy or stereoscopic fundus photography, such as microaneurysms, haemorrhages, hard exudates, new vessels, fibrous proliferations, photocoagulation scars, etc.
- Visual field (measured by manual or automated perimetry).
- Quality of life (assessed by validated scales).
- Blood glycated haemoglobin levels (HbA1c), fasting blood glucose, postprandial two-hour blood glucose.
- Blood pressure.

All the secondary outcomes were collected immediately after the treatment and at the end of follow-up. The value at such particular time points was used.

Adverse outcomes

We recorded the number and type of adverse events (serious and less serious ones). Serious adverse events were any untoward medical occurrence that resulted in death, was life-threatening, required hospitalisation or prolongation of hospitalisation, resulted in persistent or significant disability, was a congenital anomaly/birth defect or was an event that may have jeopardised the participant or required interventions to prevent one of the former serious adverse events.

Both types of adverse events were classified into the clinical manifestation mainly related to respiratory, digestive, circulatory, neurological, urological, blood system or others. We reported them separately and calculated the incidence rate.

Search methods for identification of studies

Electronic searches

The Cochrane Eyes and Vision Information Specialist searched the following electronic databases for RCTs and controlled clinical trials. There were no language or publication year restrictions. The date of the search was 12 June 2018.

- Cochrane Central Register of Controlled Trials (CENTRAL; 2018, Issue 5), which contains the Cochrane Eyes and Vision Trials Register, in the Cochrane Library (Appendix 1).
- MEDLINE Ovid (1946 to 12 June 2018) (Appendix 2).
- Embase Ovid (1947 to 12 June 2018) (Appendix 3).
- Allied and Complementary Medicine Database (AMED) (1970 to 12 June 2018) (Appendix 4).
- System for Information on Grey Literature in Europe (OpenGrey) (www.opengrey.eu; to 12 June 2018) (Appendix 5).
- ISRCTN registry (www.isrctn.com/editAdvancedSearch; searched 12 June 2018) (Appendix 6).
- US National Institutes of Health Ongoing Trials Register ClinicalTrials.gov (www.clinicaltrials.gov; searched 12 June 2018) (Appendix 7).
- World Health Organization (WHO) International Clinical Trials Registry Platform (ICTRP) (www.who.int/ictrp; searched 12 June 2018) (Appendix 8).

We also searched the following Chinese databases in June 2013: Chinese BioMedical Literature Database (CBM), Traditional Chinese Medical Literature Analysis and Retrieval System (TCMLARS), Wanfang China Dissertation Database (CDDB), Wanfang China Conference Paper Database (CCPD) and the Index to Chinese Periodical Literature. There were no date or language restrictions in the electronic search for trials. The search strategy used to search CBM was slightly modified to search the other Chinese databases (Appendix 9).

Searching other resources

We scanned the references of all included studies and relevant reviews to identify any trials that met our inclusion criteria.

Data collection and analysis

Selection of studies

Two review authors (HWZ and RT) independently assessed the title or abstract of each retrieved record to select potential eligible studies. We graded each record as include, exclude or unclear. We retrieved full-text copies for further assessment if they were graded as include or unclear.

The same two review authors independently assessed the full-text copies to decide which ones met the inclusion criteria. We labelled each record as include, exclude or unclear. We resolved any disagreements including unclear issues by discussion and conse

administrators, outcome assessors), evaluation of masking by trialists.

- Participants: inclusion and exclusion criteria, total number and number in comparison groups, baseline characteristics, setting.
- Interventions: the composition or ingredients, preparation method, dose, route, timing of intervention, comparison intervention and cointervention, expertise of practitioner.
- Outcomes: outcomes specified under Primary outcomes; Secondary outcomes, any other outcomes assessed, adverse events.
- Follow-up: length of follow-up; reason and number of dropouts and withdrawals, method of analysis.

If the above data were missing in the trial report, we contacted the corresponding author of the study for further information. If the data were not available, we reported the results of the correspondence in the review.
One review author (HWZ) entered data into Review Manager 5 (Review Manager 2014) and another review author (HYZ) checked them.

Assessment of risk of bias in included studies

Two review authors (HWZ and RT) independently assessed the risk of bias of the included studies. We resolved any discrepancies by discussion. When needed, a third review author (HYZ) assisted in making the final decision.
To detect potential selection bias, performance bias, attrition bias and detection bias, we addressed the following six domains in the assessment of risk of bias: sequence generation, allocation concealment, masking, incomplete outcome data, selective outcome reporting and other sources of bias. Baseline comparability was considered as one of the 'other sources of bias.'
We assessed each domain as yes: indicating a low risk of bias, no: indicating a high risk of bias and unclear where we could not tell due to unclear information or domain not reported.

Measures of treatment effect

Dichotomous outcomes

- Progression of retinopathy. The proportion of participants who showed improved progression or not was calculated.
- Visual acuity. The proportion of people who had a change of 2 lines or more on the acuity chart or not in each group was calculated and compared within groups.
- Observations in retina. The proportion of participants who showed improved observations or not in retina detected by ophthalmoscopy or stereoscopic fundus photography was calculated.
- Visual field. The proportion of participants who had a 10-degree increment or not in visual field was collected.

For dichotomous outcomes, we calculated the RR with its 95% CI.

Continuous data

- Quality of life.
- Blood HbA1c, fasting blood glucose, postprandial two-hour blood glucose.
- Blood pressure.

For continuous data, we calculated the MD between groups with its 95% CI when the same measurement scale was used.
The meta-analysis of continuous data was based on an underlying assumption that the outcomes had a normal distribution. We assessed the distribution of each continuous variable mainly based on previous knowledge of the variable. If the mean was smaller than twice the standard deviation (SD) in each intervention group, the data were likely to be skewed (Altman 1996).

Unit of analysis issues

The unit of analysis was the randomised participant. The included studies all used random allocation based on participants. However, four studies reported results based on eyes (Dou 1998; Ren 2000; Yin 2012; Yuan 2012). In two studies, approximately correct analyses were performed to adjust for within-person correlation between eyes (Armstrong 2013; Tuft 2005). The idea of an approximately correct analysis was to reduce the size of each trial to its 'effective sample size,' that is, its original sample size divided by a quantity called the 'design effect.' The design effect is calculated as 1 + (M - 1) ICC, where M is the mean cluster size and the intracluster (or intraclass) correlation coefficient (ICC) is an estimate of the relative variability within and between clusters (Higgins 2011). It was estimated that the ICC was 0.22 based on related studies (Armstrong 2013; Tuft 2005).
In the case of multiple intervention groups within a trial, we used only relevant single pair-wise comparisons for analysis.

Dealing with missing data

We conducted available-case analyses. We addressed the potential impact of the missing data on the results in the assessment of risk of bias. We calculated the proportion of missing data, and explored possible reasons.
Sensitivity analyses based on missing data were not conducted due to the deficiency of necessary data.

Assessment of heterogeneity

To investigate possible heterogeneity, we first reviewed the study components such as participants, interventions and outcomes in the included studies to decide if the heterogeneity was substantially large. If not, heterogeneity was further detected by visual inspection of the forest plots. If the CIs for the results of included studies

had poor overlap, heterogeneity might have been present. We used a Chi² test to test for heterogeneity. We set the significance level at

Figure 1. Study flow diagram.

Included studies

We included 10 RCTs in the review (Archimowicz-Cyrylowska 1996; Chen 2009; Dou 1998; Li 2007; Ren 2000; Xu 2003; Yang 2005; Yin 2012; Yuan 2012; Zhao 2009). The source of all data presented in the review was obtained from published literature.

Design

The 10 included studies were all RCTs.

Sample sizes

The 10 included studies involved 754 participants with diabetic retinopathy, and the sample sizes ranged from 30 to

Figure 2. Risk of bias graph: review authors' judgements about each risk of bias item presented as percentages across all included studies.

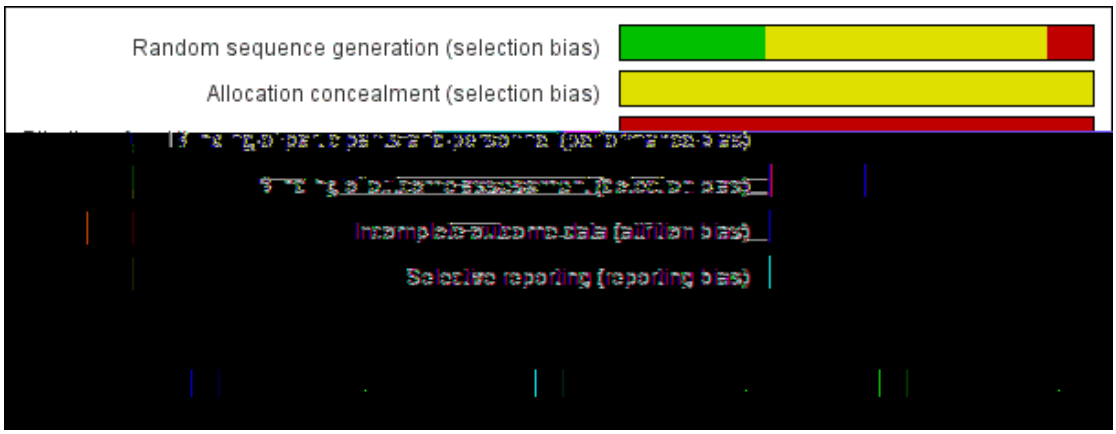

Figure 3. Risk of bias summary: review authors' judgements about each risk of bias item for each included study.

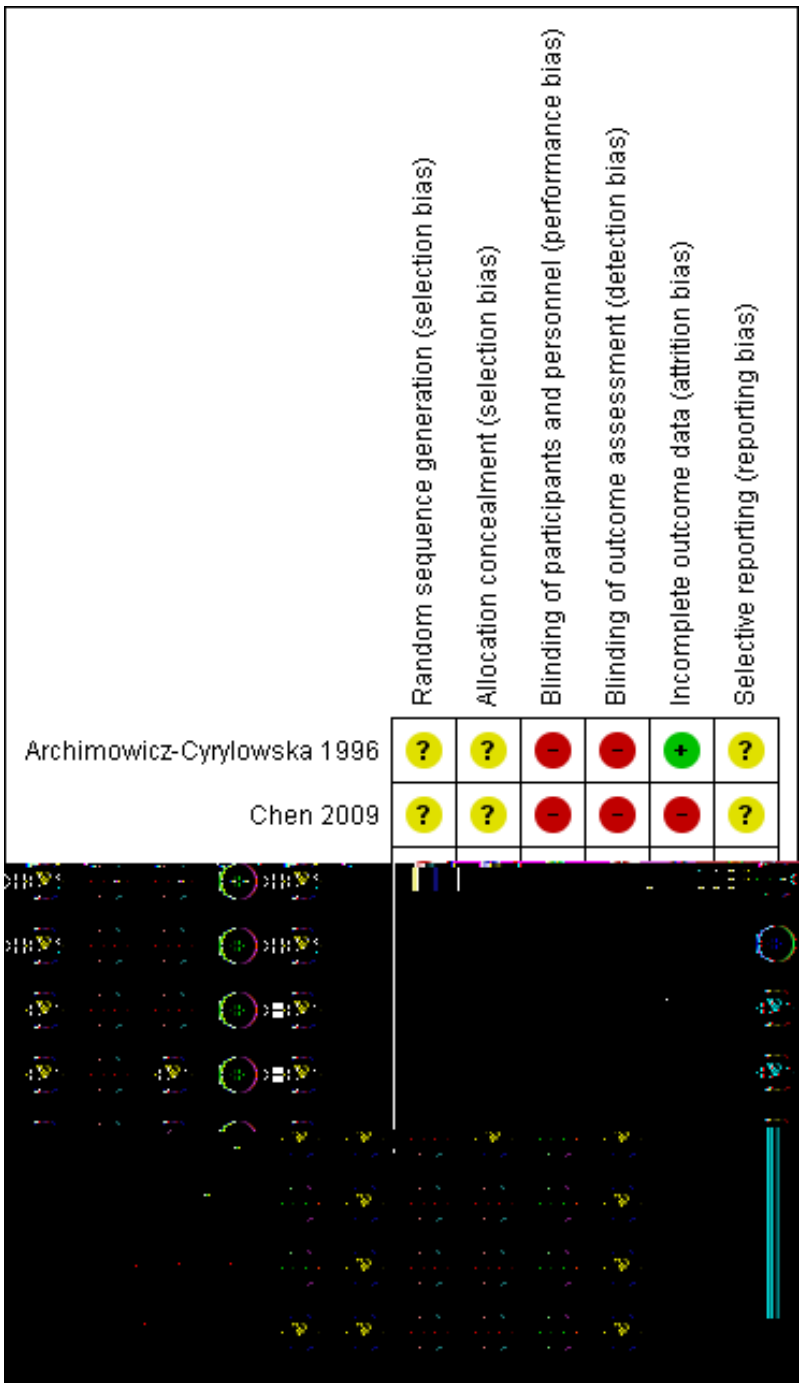

Figure 4. Forest plot of comparison: 1 Herb plus conventional intervention versus conventional intervention, outcome: 1.1 Visual acuity (gain of 2 or more lines) (end of treatment).

One study reported a follow-up benefit on visual acuity three months after the Xueshuantong injection treatment (112 participants; RR 2.33, 95% CI 0.97 to 5.64) (Li 2007).
Two studies did not report visual acuity (Chen 2009; Xu 2003).

Secondary outcome: observations in retina

One study reported that Sanqi Tongshu capsule might reduce microaneurysms (146 participants; RR 17.94, 95% CI 1.05 to 305.26) and haemorrhages (146 participants; RR 26.39, 95% CI 1.59 to 437.56) in the retina (Chen 2009). The other six studies did not report reduction in microaneurysms and haemorrhages in retina.

Secondary outcome: visual field

None of the seven studies reported visual field.

Secondary outcome: Quality of life

None of the seven studies reported quality of life.

Secondary outcome: blood glycated haemoglobin levels

The pooled analysis of two studies on tetramethylpyrazine or Xueshuantong injection showed herbs had no effect on lowering HbA1c with slight heterogeneity (2 trials, 215 participants; MD 0.00, 95% CI -0.58 to 0.58; I^2 = 11%) (Dou 1998; Yuan 2012). The other five studies did not report HbA1c.

Secondary outcome: fasting blood glucose and postprandial two-hour blood glucose

None of the seven studies reported fasting blood glucose or postprandial two-hour blood glucose.

Blood pressure

None of the seven studies reported blood pressure.

80 (1.25%) participants who took Sanqitongshu capsule (Chen 2009). In another study, there was dizziness and headache 2/52 (3.85%) participants who received intravenous drip infusion of tetramethylpyrazine injection, which was relieved after slowing the dripping speed (Dou 1998).
In the other five studies, there was no report of adverse events.

Herb and conventional intervention versus Troxerutin or vitamin B and conventional intervention

Three studies compared herb and conventional intervention versus Troxerutin or vitamin B and conventional intervention (

The combined analysis of eight studies involving 665 participants did not provide substantial evidence to support or refute the use of any herb or herbal extract in people with diabetic retinopathy.

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REFERENCES

References to studies included in this revii

Jiang 2[illegible]6b *{published data only}*
Jiang ZH, He YH, Pan QW. The influence of Salvia Miltrorrhiza injection ion therapy on the diabetic retinopathy [Dan shen zhu she ye li zi dao ru dui tang niao bing shi wang mo bing bian liao xiao de ying xiang]. Zhong Yi Yao Lin Chuang Za Zhi [Clinical Journal of Traditional Chinese Medicine] **2006; 8(5):475–6.**

Lanthony [illegible]88 *{published data only}*
Lanthony P, Cosson JP. Evolution of color vision in early diabetic retinopathy treated by Ginkgo biloba extract. Journal Francais d'Ophtalmologie **1988; (10):671–4.**

Liu 2[illegible]5 *{published data only}*
Liu Y. Xuesai tong injection intervenes on TXB2 and 6-keto-PGF1a of diabetic retinopathy in per-clinic [Xuesaitong zhu she ye dui tang niao bing shi wang mo bing bian lin chuang qian qi xue shuan su B2 ji 6–tong–qian lie xian su F1a de gan yu zuo yong]. Zhongguo Zhong Yi Yao Xin Xi Za Zhi [Chinese Journal of Information on TCM] **2005; 2(1): 23–56.**

Lu 2[illegible] 7 *{published data only}*
Lu BW, Wu XW. Clinical efficacy of integrative therapy in the treatment of non-proliferative diabetic retinopathy. International Eye Science **2017; 7(12):2234–7.**

Ma 2[illegible]8 *{published data only}*
Ma XP, Ren SJ. Observation on the clinical effect of tetramethylprazine injection ion therapy for the treatment of diabetic retinopathy [Chuan xiong qin li zi dao ru zhi liao tang niao bing shi wang mo bing bian liao xiao guan cha]. Zhongguo She Qu Yi Xue [Journal of Community Medicine] **2008; 4(1-2):44.**

Scorolli [illegible]7 *{published data only}*
Scorolli Lg, Scalinci SZ, Morinelli G, Meduri R. Evolution of color vision in early diabetic retinopathy treated by Ginkgo biloba extract. Annali Di Ottalmologia e Clinica Oculistica **1997; 23(6-8):245–51.**

Tang 2[illegible] *{published data only}*
Tang XL, Li ZG. Observation on the clinical effect of Integrated Chinese and Western Medicine for the treatment of diabetic retinopathy [Zhong xi yi jie he zhi liao tang niao bing shi wang mo bing bian 34 li liao xiao guan cha]. Xin Zhong Yi [Journal of New Chinese Medicine] **2009;4 (2): 30–1.**

Wang 2[illegible]6 *{published data only}*
Wang Y, Li ZY, Yu YG. Observations on the clinical effect of tetramethylprazine injection ion therapy on the eye combined with Chinese herbal medicine for the treatment of 74 cases of diabetic retinopathy [Zhong yao pei he yan bu chuan xiong qin zhi liu dian li zi dao ru zhi liao tang niao bing shi wang mo bing bian 74 li liao xiao guan cha]. Xin Zhong Yi [New Journal of Traditional Chinese Medicine] **2006;38(1):42–3.**

Wang 2[illegible] 7 *{published data only}*
Wang ZZ. Qi Ming granule combined with calcium dobesilate in treatment of non-proliferative diabetic retinopathy. International Eye Science **2017; 7(4):702–5.**

Wu 2[illegible]5 *{published data only}*
Wu JX, Hou GH. The influence of Xue shuan tong on the blood rheology of diabetic retinopathy [Xue shuan tong dui tang niao bing shi wang mo bing bian xue ye liu bian xue de ying xiang]. Zhong Yuan Yi Kan [Central Plains Medical Journal] **2005;32(17):1–2.**

Wu 2[illegible] 7 *{published data only}*
Wu YF. Clinical effect of pills of six ingredients with rehmannia combined with ginkgo biloba on prevention and treatment of early retinopathy in type 2 diabetes mellitus patients [Chinese]. International Eye Science **2017; 7(6): 1127–9.**

Xia 2[illegible] 2 *{published data only}*
Xia LF, Liu SY, Fang ZH, Cai WF, Wang XX, Liu GD. Clinical research of preventing and curing diabetic retinopathy of patients and improving symptoms by ion-introduction therapy [Li zi dao ru liao fa dui fang zhi tang niao bing shi wang mo bing bian ji gai shan zheng zhuang de lin chuang yan jiu]. Xian Dai Sheng Wu Yi Xue Jin Zhan [Progress in Modern Biomedicine] **2012; 2(28):5536–8.**

Xu 2[illegible] [illegible] *{published data only}*
Xu YW, Feng XZ. Danhong zhu she ye lian he xuesaitong zhu she ye zhi liao tang niao bing shi wang mo bing bian de liao xiao guan cha [Chinese]. Zhonghua Shi Yong Zhong Xi Yi Za Zhi [Chinese Journal of the Practical Chinese with Modern Medicine] **2010;23(8):12.**

Additional references

Altman [illegible]6
Altman DG, Bland JM. Detecting skewness from summary information. BMJ **1996;3 3(7066):1200.**

Armstrong 2[illegible] 3
Armstrong RA. Statistical guidelines for the analysis of data obtained from one or both eyes. Ophthalmic and Physiological Optics **2013;33(1):7–14.**

Behl 2[illegible] 7
Behl T, Kotwani A. Chinese herbal drugs for the treatment of diabetic retinopathy. Journal of Pharmacy and Pharmacology **2017;6[illegible](3):223–95.**

Bernardczyk-Meller 2[illegible]4
Bernardczyk-Meller J, Siwiec-Proscinska J, Stankiewicz W, Fichna P, Pecold K, Korman E. Influence of Egb 761 on the function of the retina in children and adolescent with long lasting diabetes mellitus - preliminary report. Klinika Oczna **2004; [illegible]6(4-5):569–71.**

Bourne 2[illegible] 3
Bourne RR, Stevens GA, White RA, Smith JL, Flaxman SR, Price H, et al. Causes of vision loss worldwide, 1990-2010: a systematic analysis. Lancet Global Health **2013; (6):e339–49.**

Bunce 2[illegible]6
Bunce C, Wormald R. Leading causes of certification for blindness and partial sight in England & Wales. BMC Public Health **2006;6:58.**

DCCTRG 1993
Anonymous. The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. The Diabetes Control and Complications Trial Research Group. New England Journal of Medicine **1993**;329(14):977–86.

Deng 2015
Deng H, Jin M, Yuan W, Xiang ZM, Wang JP. Clinical observation on treating early diabetic retinopathy with compound Danshen dripping pills. Zhongguo Zhong Yi Yan Ke Za Zhi [Journal of Traditional Chinese Ophthalmology] **2005**; 5(2):72–4.

Doly 1986
Doly M, Droy-Lefaix MT, Bonhomme B, Braquet P. Effect of Ginkgo biloba extract on the electrophysiology of the isolated retina from a diabetic rat. Presse Medicale **1986**; 5 (31):1480–3.

Fong 2014a
Fong DS, Aiello LP, Ferris FL 3rd, Klein R. Diabetic retinopathy. Diabetes Care **2004**;27(10):2540–53.

Fong 2014b
Fong DS, Aiello L, Gardner TW, King GL, Blankenship G, Cavallerano JD, et al. American Diabetes Association. Retinopathy in diabetes. Diabetes Care **2004**;27(Suppl 1): S84–7.

Frank 2014
Frank RN. Diabetic retinopathy. New England Journal of Medicine **2004**;350(1):48–58.

Glanville 2016
Glanville JM, Lefebvre C, Miles JN, Camosso-Stefinovic J. How to identify randomized controlled trials in MEDLINE: ten years on. Journal of the Medical Library Association **2006**; 94(2):130–6.

Gong 2017
Gong HX. Clinical observation on the effect of herbal preparation of Hu wang ming mu tang and photocoagulation for the treatment of diabetic retinopathy [Ji guang guang ning lian he hu wang ming mu tang zhi liao tang niao bing shi wang mo bing bian de liao xiao guan cha]. Zhong wai jian kang wen zhang [World Health Digest Medical Periodical] **2007**;4(8):55–6.

Harding 2013
Harding S. Extracts from "concise clinical evidence" diabetic retinopathy. BMJ **2003**;326(7397):1023–5.

Head 1999
Head KA. Natural therapies for ocular disorders, part one: diseases of the retina. Alternative Medicine Review **1999**;4 (5):342–59.

Higgins 2011
Higgins JP, Green S, editor(s). Cochrane Handbook for Systematic Reviews of Interventions Version 5.1.0 (updated March 2011). The Cochrane Collaboration, 2011. Available from handbook.cochrane.org.

Huang 2004
Huang SY, Jeng C, Kao SC, Yu JJ, Liu DZ. Improved haemorrheological properties by Ginkgo biloba extract (Egb 761) in type 2 diabetes mellitus complicated with retinopathy. Clinical Nutrition **2004**;23(4):615–21.

ICO 2012
International Council of Ophthalmology (ICO). International Clinical Diabetic Retinopathy Disease Severity Scale, detailed table. www.icoph.org/dynamic/attachments/resources/diabetic-retinopathy-detail.pdf (accessed 2 July 2017).

ICO 2017
International Council of Ophthalmology (ICO). Updated 2017 ICO guidelines for diabetic eye care. www.icoph.org/downloads/ICOGuidelinesforDiabeticEyeCare.pdf (accessed 2 July 2017).

Jonas 2016a
Jonas JB, Kamppeter BA, Harder B, Vossmerbaeumer U, Sauder G, Spandau UH. Intravitreal triamcinolone acetonide for diabetic macular edema: a prospective, randomized study. Journal of Ocular Pharmacology and Therapeutics **2006**;22(3):200–7.

Jonas 2016b
Jonas JB. Intravitreal triamcinolone acetonide: a change in a paradigm. Ophthalmic Research **2006**;38(4):218–45.

Jung 2015
Jung SH, Lee YS, Shim SH, Lee S, Shin KH, Kim JS, et al. Inhibitory effects of Ganoderma applanatum on rat lens aldose reductase and sorbitol accumulation in streptozotocin-induced diabetic rat tissues. Phytotherapy Research **2005**; 19(6):477–80.

Lam 2017
Lam DS, Chan CK, Mohamed S, Lai TY, Li KK, Li PS, et al. A prospective randomised trial of different doses of intravitreal triamcinolone for diabetic macular oedema. British Journal of Ophthalmology **2007**;91 (2):199–203.

Liang 2012
Liang XC, Hagino N, Guo SS, Tsutsumi T, Kobayashi S. Therapeutic efficacy of Stephania tetrandra S. Moore for treatment of neovascularization of retinal capillary (retinopathy) in diabetes - in vitro study. Phytomedicine **2002**;9(5):377–84.

Linsenmeier 1989
Linsenmeier RA, Goldstick TK, Zhang SL. Chinese herbal medicine increases tissue oxygen tension. Advances in Experimental Medicine and Biology **1989**;248:795–801.

Ma 2014
Ma G, Zhu YF, Yu PP, Shao Y, Wang YX. Clinical observation on the traditional Chinese medicine combined with laser treatment for diabetic retinopathy. Zhejiang Zhong Xi Yi Jie He Za Zhi [Zhejiang journal of integrated traditional Chinese and Western medicine] **2004**; 4(12): 762–3.

More 2017
More SV, Kim IS, Choi DK. Recent update on the role of Chinese material medica and formulations in diabetic retinopathy. Molecules **2017;22(1):76.**

Parveen 2018
Parveen A, Kim JH, Oh BG, Subedi L, Khan Z, Kim SY. Phytochemicals: Target-Based Therapeutic Strategies for Diabetic Retinopathy. Molecules **2018;23(7):pii: E1519.**

Review Manager 2014 [Computer program]
Nordic Cochrane Centre, The Cochrane Collaboration. Review Manager 5 (RevMan 5). Version 5.3. Copenhagen: Nordic Cochrane Centre, The Cochrane Collaboration, 2014.

Sharma 1992
Sharma KR, Bhatia RP, Kumar V. Role of the indigenous drug saptamrita lauha in hemorrhagic retinopathies. Annals of Ophthalmology **1992;24(1):5–8.**

Skopinski 2004
Skopinski P, Szaflik J, Duda-Krol B, Nartowska J, Sommer E, Chorostowska-Wynimko J, et al. Suppression of angiogenic activity of sera from diabetic patients with non-proliferative retinopathy by compounds of herbal origin and sulindac sulfone. International Journal of Molecular Medicine **2004; 4(4):707–11.**

Song 2006
Song YM, Lv PL, Tong JA, Yan XN. Puerarin injection on the acupoints around the eye for the treatment of 50 cases of diabetic retinopathy [Gegensu yan zhou xue wei zhu she zhi liao er xing tang niao bing xing shi wang mo bing bian 50 li]. Shaanxi Zhong Yi [Shaanxi Journal of traditional Chinese Medicine] **2006;27(4):472–4.**

Sun 2007
Sun JH, Li Y, Xu H, Wu GZ. Clinical study on compound radices salviae in treating the early diabetic retinopathy [Fu fang dan shen di wan zhi liao zao qi tang niao bing xing shi wang mo bing bian de lin chuang yan jiu]. Hebei Bei Fang Xue Yuan Xue Bao [Journal of Herbei North University (Medical Edition)] **2007;24(2):28–30.**

Tuft 2005
Tuft SJ, Manassian D. Paired observations of refractive error after cataract surgery. Ophthalmic Epidemiology **2005; 2(2): 139–42.**

UK PDSG 1998
Anonymous. Tight blood pressure control and risk of macrovascular and microvascular complications in type 2 diabetes: UKPDS 38. UK Prospective Diabetes Study Group. BMJ

CHARACTERISTICS OF STUDIES

Characteristics of included studies *[ordered by study ID]*

Archimowicz-Cyrylowska 2006

Methods	**Design.** parallel group RCT **Randomisation method.** not specified **Unit of randomisation.** participant **Masking.** no **Power calculation.** no **Dropouts/withdrawals.** no **Eyes.** no specific information was provided regarding 1 eye or both eyes. Mean change

Archimowicz-Cyrylowska 1996 (Continued)

Random sequence generation (selection bias)	Unclear risk	Method of generating random number not described.
Allocation concealment (selection bias)	Unclear risk	No description
Blinding of participants and personnel (performance bias) All outcomes	High risk	No mention of placebo control and masking.
Blinding of outcome assessment (detection bias) All outcomes	High risk	No mention of masking, and subjective outcome measures were used
Incomplete outcome data (attrition bias) All outcomes	Low risk	There was no loss to follow-up.
Selective reporting (reporting bias)	Unclear risk	Limited outcome measures were reported, but there was insufficient information to permit judgement of relevant risk of bias

Chen 2011

Methods	Design. parallel group RCT Randomisation method. not specified Unit of randomisation. participant Masking. no Power calculation. no Dropouts/withdrawals. total 12/158 (7.6%); treatment 9/80 (11.2%); control group 3/78 (3.8%). Among 9 participants in the treatment group who withdrew from the study, 2 experienced an uncomfortable stomach and 1 developed urticaria. There were no reasons given for the remaining 7 Eyes. no report about the involvement of 1 or 2 eyes during evaluation, and the evaluation report was based on the people randomised
Participants	Inclusion criteria. diabetic retinopathy diagnosed through fundus photography without any chronic serious complications Number of participants. 158 Average age range . 62 (54 to 85) years Gender M/F . 90/68 Setting. hospital in Shantou, Guangdong Province, China
Interventions	Intervention. • oral Sanqi Tongshu capsule, 400 mg, 3 times daily Comparator. • no intervention Participants in both groups received conventional intervention to control serum glucose (fasting blood glucose < 6.5 mmol/L), antiplatelet aggregation treatment and symptomatic treatment

Chen 2[illegible] (Continued)

	Treatment duration. 12 months	
Outcomes	Observations in retina (microaneurysms and haemorrhages) Follow-up. 12 months	
Notes	Date of study conducted. October 2007 to October 2008 Funding source. NR Declaration of interest. NR Trial registration ID. not registered.	
Risk of bias		
Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Method of generating random number not described.
Allocation concealment (selection bias)	Unclear risk	No description
Blinding of participants and personnel (performance bias) All outcomes	High risk	No mention of placebo control and masking. Multiple conventional interventions administered
Blinding of outcome assessment (detection bias) All outcomes	High risk	No mention of masking, and subjective outcome measures used.
Incomplete outcome data (attrition bias) All outcomes	High risk	12 participants withdrew from study, 9 from treatment group.
Selective reporting (reporting bias)	Unclear risk	Limited outcome measures reported, but there was insufficient information to permit judgement of relevant risk of bias

Methods	Design. parallel group RCT Randomisation method: not specified Unit of randomisation. participant Masking. no Power calculation. no Dropouts/withdrawals. no. 2 participants in the treatment group experienced dizziness and headaches during intravenous infusion drip of tetramethylpyrazine, and the symptoms resolved after slowing the speed of dripping Eyes. 2 eyes included in study and both eyes received same treatment, with a mixture of 1 eye and 2 eyes. The selection of eye was based on the judgement of DR stage I to VI. The visual acuity results were reported based on the eye level and not adjusted for within-person correlation. An approximately correct analysis was used for a meta-analysis
Participants	Inclusion criteria. DR diagnosed based on China National criteria, including non-proliferative and proliferative DR Number of participants. 87 Mean age. 54 years Gender M/F . 39/48 Setting. hospital in Xinxiang, Henan Province, China
Interventions	Intervention. • tetramethylpyrazine injection 280-400 mg (5 mg/kg) in 500 mL sodium chloride solution for intravenous drip infusion, once a day. Comparator. • no treatment Participants in both groups received conventional intervention in the form of oral antidiabetic drug or insulin and diabetic diet Treatment duration. 6 weeks
Outcomes	Visual acuity (change of ≥ 2 lines of acuity or not) HbA1c Follow-up. 6 weeks
Notes	Date study conducted. NR Funding source. NR Declaration of interest. NR Trial registration ID. not registered

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	High risk	Method of generating random number not described. The imbalance in the number of cases between 2 groups may have suggested improper random allocation (52 in tetramethylpyrazine group vs 35 in no treatment group)

Ren 2??? (Continued)

Interventions	Intervention. • Puerarin injection 400 mg for intravenous drip infusion, once a day Comparator. • Mecobalamin 500 μg for intramuscular injection, once a day Participants in both groups received conventional intervention in the form of antidiabetic drug to control serum glucose. Treatment duration. 6 weeks
Outcomes	Visual acuity (change of ≥ 2 lines of acuity or not) Follow-up. 6 weeks
Notes	Date study conducted. NR Funding source. NR Declaration of interest. NR Trial registration ID. not registered

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Method of generating random number not described.
Allocation concealment (selection bias)	Unclear risk	No description
Blinding of participants and personnel (performance bias) All outcomes	High risk	No mention of placebo control and masking. Multiple conventional interventions were administered
Blinding of outcome assessment (detection bias) All outcomes	High risk	No mention of masking. For the outcome assessment, subjective influence could not be excluded
Incomplete outcome data (attrition bias) All outcomes	Low risk	No loss to fo q3000-242.44231(o)19.3362(w)6.66241(-u)5

Xu 2013

Methods	**Design.** parallel group RCT **Randomisation method.** not specified **Unit of randomisation.** participant **Masking.** no **Power calculation.** no **Dropouts/withdrawals.** no **Eyes.** 2 eyes included in study and both eyes received same treatment, with a mixture of 1 eye and 2 eyes. The visual acuity results were reported based on the eye level and not adjusted for within-person correlation
Participants	**Inclusion criteria.** participants with preproliferative DR **Number.** 37 **Mean age range .** 63 (27-80) years **Gender M/F :** 17/20 **Setting.** hospital in Lishui, Zhejiang Province, China
Interventions	**Intervention.** • Puerarin injection 200-500 mg in 500 mL sodium chloride solution for intravenous drip infusion, once a day. **Comparator.** • No treatment **Participants in both groups received conventional intervention** in the form of laser photocoagulation therapy. **Treatment duration.** 2 weeks
Outcomes	Visual acuity (percentage of participants with increased visual acuity > 0.1) Observation in retina (percentage of participants with disappeared microaneurysms and retinal oedema) **Follow-up.** 2 weeks
Notes	**Date study conducted.** NR **Funding source.** NR **Declaration of interest.** NR **Trial registration ID.** not registered

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Method of generating random number not described.
Allocation concealment (selection bias)	Unclear risk	No description
Blinding of participants and personnel (performance bias) All outcomes	High risk	No masking

Xu 2013 (Continued)

Blinding of outcome assessment (detection bias) All outcomes	Unclear risk	No mention of masking. For the outcome assessment, subjective influence could not be excluded
Incomplete outcome data (attrition bias) All outcomes	Low risk	No loss to follow-up. All participants were included in the analysis
Selective reporting (reporting bias)	Unclear risk	Limited outcome measures were reported, but there was insufficient information to permit judgement of relevant risk of bias

Yang 2015

Methods	Design. parallel group RCT Randomisation method. not specified Unit of randomisation. participant Masking. no Power calculation. no Dropouts/withdrawals. no Eyes. 2 eyes included in study and both eyes received same treatment. There was no report of single or both eyes. The outcome was reported based on the individual level
Participants	Inclusion criteria. DR diagnosed based on China National criteria. Number. 52 Mean age range . 51 (35-67) years Gender M/F . 28/24 Setting. hospital in Dandong, Liaoning Province, China
Interventions	Intervention. • Xuesaitong injection 400 mg in 250 mL 0.9% sodium chloride solution for intravenous drip infusion, once a day. Comparator. • oxerutins (Venoruton forte) 0.2 g in 250 mL 0.9% sodium chloride for intravenous drip infusion, once a day. Participants in both groups received conventional intervention in the form of antidiabetic drug to control serum glucose. Treatment duration. 30 days (5 interval days between 2 courses of 15 days)
Outcomes	

Yang 2015 (Continued)

Yin 2012 2 (Continued)

	Participants in both groups received conventional intervention in the form of antidiabetic drug or insulin to control serum glucose Treatment duration. 20 days (with a 3-day interval in the middle)
Outcomes	Visual acuity (change of ≥ 2 lines of acuity or not) Follow-up. 20 days
Notes	Date study conducted. July 2008 to June 2011 Funding source. NR Declaration of interest. NR Trial registration ID. not registered

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Random number table used.
Allocation concealment (selection bias)	Unclear risk	No description.
Blinding of participants and personnel (performance bias) All outcomes	High risk	No mention of placebo control and masking. Multiple conventional interventions were administered
Blinding of outcome assessment (detection bias) All outcomes	High risk	No mention of masking. For the outcome assessment, subjective influence could not be excluded
Incomplete outcome data (attrition bias) All outcomes	Low risk	No loss to follow-up. All participants were included in the analysis
Selective reporting (reporting bias)	Unclear risk	Limited outcome measures were reported, but there was insufficient information to permit judgement of relevant risk of bias

Yuan 2[illegible] 2 (Continued)

Blinding of outcome assessment (detection bias) All outcomes	High risk	No mention of masking. For the outcome assessment, subjective influence could not be excluded
Incomplete outcome data (attrition bias) All outcomes	Low risk	No loss to follow-up. All participants were included in the analysis
Selective reporting (reporting bias)	Unclear risk	Limited outcome measures were reported, but there was insufficient information to permit judgement of relevant risk of bias

Zhao 2[illegible]

Methods	Design. parallel group RCT

Zhao 2[illegible] (Continued)

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Method of generating random number not described.
Allocation concealment (selection bias)	Unclear risk	No description
Blinding of participants and personnel (performance bias) All outcomes	High risk	No mention of placebo control and masking. Multiple conventional interventions were administered
Blinding of outcome assessment (detection bias) All outcomes	High risk	No mention of masking. For the outcome assessment, subjective influence could not be excluded
Incomplete outcome data (attrition bias) All outcomes	Low risk	No loss to follow-up. All participants were included in the analysis
Selective reporting (reporting bias)	Unclear risk	Limited outcome measures were reported, but there was insufficient information to permit judgement of relevant risk of bias

DR: diabetic retinopathy; F: female; HbA1c: glycated haemoglobin A1c; M: men; NR: not reported; RCT: randomised controlled trial; WHO: World Health Organization.

Characteristics of excluded studies *[ordered by study ID]*

Study	Reason for exclusion
Feng 2007	Relevant outcomes not measured. Blood rheology indexes and haemodynamic indexes were measured
Gao 2012	Different doses of ligustrazine (Chuanxiongqin) injection compared between groups
Jiang 2006a	Chinese medicine used in both groups.
Jiang 2006b	2 single herbal preparations combined in treatment group.
Lanthony 1988	No targeted outcome measures. Colour saturation was studied.
Liu 2005	Relevant outcomes not measured. Measured thromboxane B_2 and 6-keto prostaglandin $F_{1\alpha}$.
Lu 2017	Not a single herb extract.

(Continued)

Ma 2008	Chinese medicine used in both groups.
Scorolli 1997	Relevant outcomes not measured. Colour saturation was studied
Tang 2009	Different administration routes of liquid ambaris fructus compared between groups
Wang 2006	Chinese medicines used in both groups.
Wang 2017	Treatment was a compound Chinese medicine preparations in which astragali was 1 ingredient
Wu 2005	Treatment was a compound Chinese medicine preparations in which Notoginseng was the main ingredient
Wu 2017	Not a single herb extract.
Xia 2012	Compound Chinese herbal medicines used in treatment group.
Xu 2010	Chinese medicine combined with Xuesaitong injection was used in treatment group

DATA AND ANALYSES

Comparison . Herb plus conventional intervention versus conventional intervention

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Visual acuity (gain of ≥ 2 lines) (end of treatment)	5	541	Risk Ratio (M-H, Random, 95% CI)	1.26 [1.08, 1.48]
1.1 Puerarin	2	114	Risk Ratio (M-H, Random, 95% CI)	1.36 [0.80, 2.32]
1.2 Xueshuantong	2	288	Risk Ratio (M-H, Random, 95% CI)	1.44 [0.72, 2.89]
1.3 Tetramethylpyrazine	1	139	Risk Ratio (M-H, Random, 95% CI)	1.60 [1.00, 2.58]
2 Visual acuity (gain of ≥ 2 lines) (end of follow-up)	1		Risk Ratio (M-H, Fixed, 95% CI)	Subtotals only
3 Observations in retina: reduction in microaneurysms	1		Risk Ratio (M-H, Random, 95% CI)	Totals not selected
4 Observations in retina: reduction in haemorrhages	1		Risk Ratio (M-H, Random, 95% CI)	Totals not selected
5 Glycated haemoglobin A1c (%)	2	215	Mean Difference (IV, Fixed, 95% CI)	0.00 [-0.58, 0.58]

Comparison 2. Herb plus conventional intervention versus Troxerutin or vitamin B and subgroup plus conventional intervention

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Visual acuity (gain of ≥ 2 lines)	1		Risk Ratio (M-H, Fixed, 95% CI)	Totals not selected
2 Glycated haemoglobin A1c	1		Mean Difference (IV, Fixed, 95% CI)	Totals not selected

CONTRIBUTIONS OF AUTHORS

Conceiving the review: **HWZ.**

Designing the review: **HWZ.**

Co-ordinating the review: **HWZ, HYZ.**

Data collection for the review:

- designing search strategies: **HWZ, HYZ;**
- undertaking searches: **HWZ, HYZ, SG;**
- screening search results: **HWZ, HYZ;**
- organising retrieval of papers: **HWZ, HYZ;**
- screening retrieved papers against inclusion criteria: **HWZ, HYZ, SG;**
- appraising quality of papers: **HWZ, HYZ;**
- extracting data from papers: **HWZ, HYZ;**
- writing to authors of papers for additional information: **HWZ, XW;**
- providing additional data about papers: **HWZ, HYZ;**
- obtaining and screening data on unpublished studies: **HWZ, HYZ.**

Data management for the review:

- entering data into Review Manager 5: **HWZ, HYZ**
- Analysis of data: **HWZ, XW.**

Interpretation of data:

- providing a methodological perspective: **HWZ, XW, SG;**
- providing a clinical perspective: **HYZ, HWZ, XW;**
- providing a policy perspective: **HWZ;**
- providing a consumer perspective: **XW, SG.**

Writing the review: **HWZ, SG, HYZ.**

Providing general advice on the review: **SG, XW.**

Securing funding for the review: **HWZ.**

Performing previous work that was the foundation of the current study: **HWZ.**

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HYZ: none known.

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