

Xuezhikang Capsule for Type 2 Diabetes with Hyperlipemia: A Systematic Review and Meta-Analysis of Randomized Clinical Trails

Abstract

To evaluate the effectuality and safety of Xuezhikang capsule treating type2 polygenic disorder with lipaemia, we tend to searched six databases to spot relevant studies revealed before Jan 2015. 2 review authors severally extracted knowledge and assessed the Cochrane risk of bias tool. We tend to resolved disagreements with this assessment through discussion and a choice was achieved by agreement. We tend to enclosed twenty one studies (1548 participants). Treatment courses were a minimum of eight weeks. Overall, the danger of bias of enclosed trials was unclear. Among them, sixteen studies might conduct meta-analysis. The result showed that compared with routine cluster (5 studies), Xuezhikang cluster had additional impact on decreasing TC, TG, LDL-C, and rising HDL-C. However, compared with statins cluster (11 studies); Xuezhikang cluster has less impact on decreasing TC, TG, and rising HDL-C. Meanwhile, 2 teams had no applied math variations of LDL-C level. Xuezhikang capsule could also be effective for treating type2 polygenic disorder with hyperlipidemia. Our findings ought to be thought of cautiously because of unclear risk of bias of the enclosed studies and low method quality. Therefore, additional strictly designed large-scale randomised clinical trials square measure required to judge the effectuality of Xuezhikang capsule in kind two polygenic disorders with hyperlipidemia.

Keywords: Type 2 Diabetes • Hyperlipemia • Clinical trials • Diagnosis • Treatment

Introduction

In recent years, with the advance of people's living commonplace, manner changes, and therefore the aging of the population, the incidence of type2 polygenic disorder has become terribly high with a visible rising trend. It's been a threat to international human health and become one among the foremost necessary public health issues worldwide. As a result of the disorder of biological regulation perform of hypoglycaemic agent, polygenic disorder patient's square measure usually in the course of macromolecule metabolism disorders, sophisticated with lipaemia. Polygenic disorder sophisticated with lipaemia will accelerate the method of arteriosclerosis, increasing the incidence of disorder [1].

At present, clinical nondrug medical aid to treat diabetic with lipaemia embody diet, losing weight, exercise, and smoking and alcohol limit. medicine to treat diabetic patients chiefly regulate macromolecule metabolism like statins and fenofibrate; these medicine will lower total sterol (TC) and LDL sterol (LDL-C) and square measure wide utilized in clinic. Statins, however, will cause canal disorders, rash, muscle tenderness, aminopherase and aminoalkanoic acid enzyme elevations, rhabdomyolysis, and plenty of alternative adverse reactions; therefore the application is proscribed [2]. Therefore, seeking new safe and effective lipid-lowering medicine could be a hot spot of current analysis. Red kojic rice could be quite ancient Chinese drugs which might be used as drugs or as food diet. It will

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invigorate spleen to market digestion, clear damp, eliminate phlegm, and promote blood circulation to get rid of blood stasis. The parts of Xuezhikang capsule (hereinafter cited as XZK) comes from red kojic rice by high technical school biotechnology, containing statin drug and medicament homologue and a range of essential amino acids, unsaturated carboxylic acid, sterol, and little amounts of flavonoids. It obvious effects on dyslipidemia and arteriosclerosis and has less adverse reaction. Therefore, within the treatment of kind two polygenic disorders with lipaemia, XZK might have smart prospect of development [3].

Materials and Methods

Randomized controlled trials with blind technique or not and no limit of business language square measure enclosed. We tend to planned to incorporate randomised crossover trials, if out there. We tend to excluded quasirandomized controlled trials (quasi-RCTs) and nonrandomized controlled trials. Patients diagnosed with kind two DM and lipaemia was enclosed, not as well as those with severe heart condition and heavy complications. Age and race don't seem to be restricted [4].

Diagnostic criteria for kind two DM square measure as follows: the UN agency polygenic disorder diagnostic criteria steered by polygenic disorder knowledgeable informative committee; 2005 yankee polygenic disorder clinical pointers (ADA) and therefore the Adult Treatment Panel III (ATP III) of yank sterol education program; yankee polygenic disorder Association criteria; 2010 China polygenic disorder interference and treatment pointers. Diagnostic criteria for hyperlipidemia square measure as follows: dyslipidemia interference recommendation of china, 1997; 2007 Chinese adult dyslipidemia interference guide standards; wellness clinical diagnosis: criteria of cure and amelioration; tenet of ancient Chinese drugs clinical analysis. Randomised controlled trials that meet each diagnostic criteria square measure enclosed [5].

Treatment teams square measure given XZK and basic glucose-lowering medicine (hereinafter cited as BGLD). Management teams square measure given placebos, statins, fen fibrates, and BGLD. Treatment

courses square measure a minimum of eight weeks. There's no distinction between treatment teams and management teams in gender, age, blood macromolecule, and glucose before treatment in each study. Validity is calculated as follows: by comparison of patients' total sterol (TC), acylglycerol (TG), high density conjugated protein sterol (HDL-C), and density conjugated protein sterol (LDL-C) before and when treatment. Safety is calculated as follows: initial, laboratory examination is as follows: peripheral exposure, liver perform, excretory organ perform, then forth; second, adverse event is as follows: canal reaction, hypersensitivity, then forth [6].

Effective criteria square measure as follows: tenet of ancient Chinese drugs clinical analysis by Ministry of Health, 1993; vas drug clinical analysis guiding principles by Ministry of Health, 1998; recommendation of vas drug trial analysis technique. The 3 analysis standards agreed: exceptional effective: TC weakened by 2 hundredth or additional, TG weakened by four-hundredth or additional, and HDL-C rose zero.26 mmol/L or more; effective: TC weakened by 10%~20%, TG weakened by 20%~40%, and HDL-C rose zero.10~0.26 mmol/L; no effective: those that didn't reach the effective criteria, TC rose by 100% or additional, TG rose by 100% or additional, and HDL-C weakened quite zero.18 mmol/L. the full effective rate = exceptional effective rate + effective rate [7].

The authors searched PubMed, The Cochrane Library, Chinese medicine information (CBM), China National information Infrastructure (CNKI), Wanfang information, and Chinese Scientific Journal information (VIP) (publishing time was before Jan 2015). the subsequent search terms were used singly or combined: "xuezhikang", "type two polygenic disorder mellitus", "diabetes mellitus", "hyperlipemia", "HLP", "hypercholesterolemia", "hypertriglyceridemia", "high-density conjugated protein cholesterol", "low-density conjugated protein cholesterol", "mixed dyslipidemia", "Total Cholesterol", "TC", "triglyceride", "TG", "HDL-C", "LDL-C", "dyslipidemia", "lipid metabolism disorders", and "hypercholesterolemia". Additional details got within the following half. When removing duplicates from completely different databases, the authors confirmed RCTs by reading title, abstract, and even the total article [8].

Discussion

HMG-CoA reductase is that the key protein for sterol synthesis. Statins block group valeric acid metabolic pathways in cells by its competitive inhibition toward 5-hydroxy-3-methylglutaryl-coenzyme a reductase and therefore block the synthesis of sterol, reducing blood sterol levels. General Statins will lower TC and LDL-C, slightly elevate HDL-C, and slightly lower TG. The most ingredients of XZK square measure statin drug and medicament homologue; so, XZK ought to have similar effects. This study followed the Cochrane principle of system analysis and analyzed sixteen studies of XZK treating DM with lipaemia. The result shows that, compared with routine cluster, XZK cluster has additional important TC, TG decrease, and HDL-C rise. However, compared with statins cluster, XZK cluster has less impact on TC, TG decrease, and HDL-C rise, additionally as no applied math variations of LDL-C level [9].

For diabetic patients, because of low hypoglycaemic agent level or hypoglycaemic agent resistance, the combining capability of hypoglycaemic agent and hypoglycaemic agent receptor is deficient and therefore the effects when combining square measure restricted. Utilization and process of aldohexose additionally as aldohexose uptake capability of muscle and fat square measure weakened, viscous aldohexose production is multiplied, and activity of conjugated protein enzyme weakened, inflicting glycolipid metabolic disorders. XZK not solely will regulate blood fat, however conjointly has bound impact on the advance of the hypoglycaemic agent resistance. Chinese compared XZK and BGLD versus BGLD, to treat diabetic hyperlipemia; the result shows that XZK will considerably improve the hypoglycaemic agent sensitive index, whereas the fundamental treatment cluster has no important modification, that indicates that XZK will treat hypoglycaemic agent resistance in kind two polygenic disorder patients. Moreover, XZK is extracted from red yeast rice, Chinese seasoned drugs that have effects of reviving spleen and promoting digestion, bodily function phlegm and damp, promoting blood circulation, and removing blood stasis. In ancient Chinese drugs, polygenic disorder is named xiaoke, in which, because of long-time diet

disorder, overconsumption of fat and sweet food damages the spleen. Therefore the transportation and transformation functions of spleen square measure annoyed, inflicting inner heat to dry the fluid of the body and eventually inflicting xiaoke, As for lipidaemia, in ancient Chinese drugs it's thought of as a result of pathology of the spleen in transport, blood stasis, and phlegm-damp. XZK will invigorate spleen to market digestion, expel phlegm and damp, promote blood circulation, and take away blood stasis [10].

Conclusion

Xuezhikang capsule could also be effective for treating type2 polygenic disorder with hyperlipidemia. Our findings ought to be thought of cautiously because of unclear risk of bias of the enclosed studies and low method quality. Therefore, additional strictly designed large-scale randomised clinical trials square measure required to judge the effectuality of Xuezhikang capsule in kind two polygenic disorders with hyperlipidemia.

Conflict of Interests

None

Acknowledgement

None

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