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The impact of individualized Moxibustion scheme on malnutrition state in patients with maintenance hemodialysis

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Moxibustion, using moxa made from dried Mugwort (*Artemisia argyi*) is one of China's most ancient therapies as old as acupuncture. Traditional moxibustion is not suitable for the environmental requirement of blood purification center because of the strong smoke, so we chose the non-smoking moxibustion therapy instrument with a paper-tube (produced by Taizhou City Moxibustion Therapy Technique Institute in Jiangsu Province). Since 2005, we carried out a series of studies on the effectiveness of moxibustion on intervening complications of maintenance hemodialysis patients. A newly prospective, multicenter and parallel randomized controlled method study was supported by Beijing Traditional Chinese Medicine Science and Technology project (No. JJ2013-64) and China Academy of Traditional Chinese Medicine research projects (N0.ZZ070863). And the result shows that, in improving the SGA score, triceps skinfold thickness, body mass index and percentage of body fat; individualized moxibustion scheme is more effective than fixed point scheme and conventional western medicine treatment. Based on the above, we are going to do a further study of the effect mechanisms of moxibustion in intervening carnitine metabolism in hemodialysis patients.

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Bioavailability and antihyperglycemic effect of metformin transfersome vesicles in transdermal patch delivery system

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Metformin, a prominently prescribed antihyperglycemic agent has been proven to increase life span of both diabetic and non-diabetic individuals. It decreases glucose production and absorption, and increases body's response to insulin. However, it is slowly and incompletely absorbed in the gastrointestinal tract; and it has a low permeability. It is available in oral tablet and it takes 6 hours for the drug to be completely absorbed. It is taken 2 to 3 times a day as a maintenance drug, depending on patient's condition. Gastrointestinal side effects have also been reported in nearly 30% of patients. With these impediments, different drug delivery systems have been developed. The use of transfersomes in transdermal patch offers the potential advantage of improving the bioavailability of the drug. Metformin transfersome vesicles were prepared using sodium cholate and Phosphatidylcholine 50%, and its particle size was 168 nm. Drug entrapment efficiency was determined using HPLC and it was found to be 94.96%. Plasma concentration of metformin in hyperglycemic induced rabbits treated with metformin transfersome patch was significantly higher than controls ($p=0.001$). The post treatment glucose level of hyperglycemia-induced rabbits applied with metformin transfersome patch ($p=0.002$) showed significant decrease in glucose level relative to untreated alloxan-induced hyperglycemic rabbits. The study showed that metformin transfersome vesicles in transdermal patch delivery provide enhanced antihyperglycemic effect and bioavailability over metformin transdermal patch.

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