

ABSTRACT

INTRODUCTION

Major depression(MD) is a severe, life-threatening, and widespread psychiatric disorder having an incidence of about 340 million cases worldwide. MD ranks fifth among leading causes of global disease burden including developing countries, and by year 2030 it is predicted to represent one of the three leading causes of burden of disease worldwide . MD is also a risk factor for cardiovascular and metabolic diseases, and a major risk factor for suicide . Despite extensive investigations, the exact mechanism responsible for MD have not been identified, and current therapeutics are based on serendipitous discoveries rather than on bench-to-bedside, targeted drug discovery . In addition, although clinically efficient antidepressant drugs do exist, the situation is in many cases far from ideal. Shortcomings such as low remission and/or high treatment-resistance rates, slow onset of action, side effects, and drug–drug interactions merit the exploration of all plausible agents that are effective, tolerable, and safe, and that improve maintenance of wellness . Accordingly, there is an enormous need for joint experimental efforts between preclinical and clinical scientists.

AIMS & OBJECTIVES

To study the link between depression and inflammation using *Rhodiola rosea* SHR-5 in mice models of depression.

OBJECTIVES

PRIMARY OBJECTIVE

To study the link between depression and inflammation using *Rhodiola rosea* SHR-5 in mice models of depression.

SECONDARY OBJECTIVE

To compare the anti-depressant action of *Rhodiola rosea* SHR-5 and Imipramine in mice models of depression.

METHODS

35 swiss albino mice were randomized , divided into 5 groups, the Control group was under observation .The other 4 groups were subjected to Chronic Unpredictable Mild Stress.3 groups were treated with two doses of the herb *Rhodiola rosea* , and Imipramine. The other group was subjected to stress alone. After a period of 8 weeks , the animals were evaluated

RESULTS

The animals in the *Rhodiola rosea* lower dose had a reduced immobility time in both Forced swim test , Tail suspension test, increased head dipping behavior, and the levels of serotonin were higher , the levels of 3-hydroxy-Kynurenine and Tumour necrosis

factor alpha were lower when compared with the CUMS group , and this was mostly similar to the standard treatment group.

CONCLUSION

Hence we would like to conclude that depression occurs due to inflammation

Neuro inflammation occurs due to the neurotoxic metabolic like 3-hydroxy-kynurenine

The kynurenine pathway have a greater role to play in depression.

Rhodiola rosea a herb, and adaptogen is potent and equally efficacious to Imipramine as an antidepressant

KEY WORDS

Depression, *Rhodiola rosea* ,Tail suspension test, Forced swim test , Kynurenine ,Neuroinflammation, Chronic Unpredictable Mild Stress