

***Salacia reticulata* (kothala himbutu) and *Psychotria sarmentosa* (gonika) extracts ameliorates ovariectomy induced bone destruction**

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Osteoporosis is considered as a “silent killer” because it occurs swiftly and depletes as much as 40% peak bone mass before being detected. Kothala Himbutu (*Salacia reticulata*) (KH) and Gonika (*Psychotria sarmentosa*) (G) are two herbal plants used by ayurvedic practitioners to treat bone related problems. The current study endeavors to measure the effects of herbal extracts on bone destruction. Measurements of bone destruction were carried out by measuring a specific bone destruction marker i.e. cross-linked C-telopeptide of type I collagen (CTX-1) in serum.

To this end an established ovariectomy-(OVX)-induced bone destruction mouse model was used. Thirty-six 12-week-old female BALB/c mice were weighed and randomly divided into six groups (n=6). Five groups were subjected to the OVX-operation and the other group was subjected to a sham operation (negative control). One group (OVX/Vehicle) of OVX mice was used as a positive control. OVX/Vehicle and the sham group were fed daily with distilled water. Two groups (KH/ low dose (LD; 25mg/kg), KH/ high dose (HD; 50mg/kg)) of OVX mice were fed with aqueous extract of KH leaves in two doses. The remaining two groups (G/LD, G/HD) of OVX mice were fed with aqueous extract of G leaves in two doses. Mice were given food and water *ad libitum* for four weeks and before sacrifice, blood was collected.

A significant increase of CTX-1 level in OVX/Vehicle (0.835ng/ml ± 0.028) in serum confirmed bone destruction (p< 0.005 vs sham). A significant decrease in serum CTX-1 was detected in the mice fed with high doses of KH (0.652ng/ml ± 0.035; p< 0.005 vs OVX/Vehicle) and G (0.672ng/ml ± 0.012; p< 0.05 vs OVX/Vehicle). Liver, kidney and pancreas were processed using standard tissue processing techniques and stained with haematoxylin and eosin. Sections were analysed, and no remarkable changes were noticed in the test groups. Finally, the results indicated that the herbal extracts ameliorate bone destruction in OVX mice. Further studies are necessary to clarify the mechanism of action of these herbal extracts.

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