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Oral hypoglycaemic activity of *Pleurotus ostreatus* mushroom in Wistar rats.

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Among all the metals found in nature, there are many which are not present in any of the biological systems. They can affect biological processes with adverse health problems in humans. Metals like lead, cadmium, mercury, arsenic, aluminum, chromium, tin, and an timony, can be categorized as such metals. If they enter and accumulate in body tissues faster than the body's detoxification pathways disposing them, a gradual buildup of these will occur. The only treatment is the removal of these metals as urinary or fecal excretion, (metal detoxification) by chelation therapy using EDTA like synthetic chelators or natural organic chelators like ascorbic acid (vitamin C). Among all toxic metals, lead is considered the most widely distributed toxic metal in the world. As a result of very high usage of motor vehicles, industrialization, use of large amounts of pesticides on fruits and vegetables and the consumption of various types of canned food today, Sri Lankans are also exposed to high levels of lead.

This research mainly focused on the determination of stability constants of Pb(II)-binary and Pb(II)-mixed ligand (ternary) systems to mimic *in-vitro* (37 ^{0}C and ionic strength 0.15 M with $NaNO_3$). Kelvin type pH titration technique was used to obtain the titration curves for lead ions with Paracetamol (Para), Salicylic acid (Sali) and Vitamin C (AsC) under acidic conditions. Stability constants of ternary and binary systems have been evaluated by the method suggested by Irving-Rossotti to investigate the interactions of lead with those three chelators. For binary systems log K_f^1 (first formation constant) values obtained were 8.00, 7.48, 10.61 for (AsC), (Sali) and (Para) respectively and log K_f^2 (second formation constant) values were 3.02 and 7.65 for (AsC) and (Para) respectively. Log K_f^1 (first formation constant) values of ternary systems (AsC+Sali), (AsC+Para), (Sali+Para) were 14.55, 14.70 and 16.96 respectively and log K_f^2 (second formation constant) values were 3.98, 5.69 and 8.86 for the above ternary systems respectively. According to the above results, it is clear that mixed ligand systems have better affinity towards lead ions than when those chelators are present alone in the physiological conditions.

Acknowledgement: Financial assistance was provided by NSF Research grant (RG/2008/BS/01) to CAMDS K: Metal-ligand complexes, formation constants, physiological conditions