Iron chelation ability and haematological effect of Sappan wood (Caesalpinia sappan, L.) extract tablet on iron overload rats

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Abstract

Research of iron chelation ability of sappan wood (Caesalpinia sappan, L) extract tablet (Rattus norvegicus.1.) on iron overload rats aimed to obtain optimum dose of sappan wood extract (CSE) tablet, effective as a herbal iron chelator. The research was performed using a completely randomized design (CRD) on 27 female Wistar rats 8 weeks old with an average weight of 200 grams. This research was divided into 9 treatments with 3 repetitions involving negative control (KN1) and the control formula (KN2). Tablets of sappan wood extract (CSE) dose of 100 mg/kg BW/d (P1), dose of 200 mg/kg BW/d (P2), dose of 300 mg/kg BW/d (P3), dose of 400 mg/kg BW/d (P4), a satellite group (P5) and deferiprone dose of 75 mg/kg BW/d (P6) were investigated. Data were statistically analysed using analysis of variance (ANOVA) and significant level of 95% (α = 0.05). Duncan multiple comparison test was then used if the results showed significant difference. The findings showed that the sappan wood extract tablets were within the normal value ranges for each measurement of the blood parameters. These indicate that administration of sappan wood extract tablet only binds the excess of iron body but does not destabilize the erythrocytes.

Keywords: Caesalpinia sappan, L; iron chelation; tablet; thalassemia

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