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Hematological and serum biochemistry comparison between cotton hair thread (CHT) and silk suture on surgical skin wounds of rabbits

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A total of twelve (12) rabbits randomly assigned into three groups (I, II, and III) of 4 rabbits each were used. A 6 cm long para-lumbar skin incision was aseptically performed in groups I and II using xylazine (0.5 mg/kg) and ketamine (22 mg/kg) as pre-medicant and anesthetic respectively. The incised skins in group I rabbits were apposed with conventional silk suture while the incised skins in the group II rabbits were approximated with CHT. Group III served as a control (no surgery). The hematological and serum biochemistry responses following the use of these sutures were evaluated. Packed cell volume (PCV), red blood cell (RBC) count, total and differential white blood cell (WBC) counts, total protein, albumin and globulin levels were determined using standard methods at pre-surgery (day 0) and on post-operative days 1, 3, 7, 10, 14 and 21 in all the groups. Hematological and serum biochemistry parameters were analyzed using one-way analysis of variance (ANOVA). The means of packed cell volume (PCV) and red blood cells (RBC) in rabbits in groups I, II and III showed no significant variations ($P>0.05$) throughout the study. The total white blood cells (WBC) count increased significantly ($P<0.05$) in group I compared to groups II and III on post-surgery day 3. The means of differential leucocytes such as the heterophils, monocytes, eosinophils and basophils in the three groups (I, II and III) were statistically not significant ($p>0.05$) throughout the study. However, at day 3 post-surgery the means of lymphocytes in rabbits in groups I and II increased significantly ($p<0.05$) compared with group III, the control. At day 21 post-surgery, the means of lymphocytes in group I and II were statistically not significant ($p>0.05$) but they vary significantly higher ($p<0.05$) with group III. Total protein, albumin and globulin in the three groups (I, II and III) showed no significant difference ($p>0.05$) throughout the study. Cotton hair thread elicited insignificant hematological and serum biochemical changes compared to the conventional silk suture material.

Biography

Ogbanya K C completed his primary and secondary education at Community Primary and Secondary Schools respectively in Nsukka Enugu State of Nigeria. In 2001, he got admission to study Veterinary Medicine in the University of Nigeria, Nsukka and graduated with the certificate of Doctor of Veterinary Medicine in the year, 2009. In August 2010, he enrolled for a Master Degree Program in Veterinary Surgery, University of Nigeria, Nsukka and graduated with MSc in Veterinary Surgery in the year 2013. Currently, he is running a PhD research program in the same department of the above institution. In 2011, he was employed as an academic staff of the Department of Veterinary Surgery, University of Nigeria, Nsukka. In addition, he has published two original articles in *Comparative Clinical Pathology* (Springer) and more than two in the *Animal Research International Journal* and many more in various local Journals. He was on several occasions engaged in workshops, local conferences, academic seminars and inaugural lectures of renowned professors of different Universities in Nigeria.

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