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Derivation of a unique body surface area (BSA) formula for calculation of relatively safe doses of dog and human anticancer drugs

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The safety of anticancer dosing has become a serious concern due to high incidence of life-threatening toxicity signs. More so, dogs are used as models of research for human cancers. As such, a uniform body surface area (BSA) formula is developed for human and dogs with a view to having low safe effective therapeutic doses of anticancers. The derived formula (BSA=BW0.528×H0.528×K) was used to calculate BSAs of greyhound, toy, companion, terrier, hunting and working dogs, yielded low doses of dacarbazine, asparaginase, streptozotocin, dactinomycin, epirubicine and prednisolone. Hunting and working dogs have high body weight, BMI and BSAs similar to that of human and may be prone to obesity and obesity associated diseases. Whereas BSAs and doses of anticancer agents of light and relatively tall dogs are relatively higher in comparison with that of short and light dogs. Greyhounds have higher BSA in comparison with toys, companions and terriers. Working breeds of dog: treeing walker coon haired (65.0 kg), great swiss mountain dog (59.0 kg), longhaired St bernard (55.0 kg), french mastiff (50.0 kg) and female komondor (59.0 kg) have same BSA values with humans weighing 51.3, 46.7, 44.8, 44.0 and 43.0 kg, respectively. Calculated exponent (0.528) may be the common relationship between basal metabolism of dog and human.

Biography

Saganuwan Alhaji Saganuwan is working as an Associate Professor of Pharmacology, former HOD, Registration/Time Table Officer, College of Veterinary Medicine, University of Agriculture, Makurdi, Nigeria, Fellow, Institute of Industrial Administration, Licensed Member of Veterinary Council of Nigeria, Honorary Member, Nigeria Institute of Food Science and Technology, Member of Science and Technology Forum, Member of Institute of Research and Development Network, Editorial Board Member to many local and international journals of high repute. He received DVM degree in Veterinary Medicine, MSc in Pharmacology and PhD in Pharmacology from Usmanu Danfodiyo University, Sokoto, Nigeria. He received also PGD in Statistics and PGDE in Science Education from University of Agriculture, Makurdi, Nigeria. He received Medical International Noble Award in 2012. His areas of research interest are Pharmacology, Toxicology, Oncology and Medicinal Chemistry. Presently he teaches, carries out research and supervises undergraduate and graduate students of University of Agriculture, Makurdi, Nigeria. He has over 230 citations with 60 publications in local and international journals of high repute. He has presented conference papers in USA, UK, India, Spain, Japan, China, Cyprus, Australia and Nigeria.

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