Effect of long term administration of some non steroidal anti-inflammatory drugs on the chromosomal pattern

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The present work aimed to study the effect of chronic administration of some currently used NSAIDs, namely,indomethacin, piroxicam and diclofenac on the rate ofmitosis and on the chromosomal pattern of bone marrowcells of albino rat.Bone marrow samples used through this study wereobtained from 200 albino rats. They were divided into 4equal groups, each comprising 50 animals. In the firstgroup, the animals were given indomethacin at a dose of 3mg/kg daily. In the second group, the animals were givenpiroxicam at a dose of 1 mg/kg daily. In the third group,the animals were given d{clofenac at a dose of 2 mg/kgdaily. The three groups were given the drugs for 10,20,30,45 and 60 days. In the fourth group, the animals were give5% gum arabic aqueous solution daily ·for 10,20,30,45 and60 days and were used as controls. Observations of thecell kinetics and cytogenetic changes of the bone marrowcells were carried out on 10 rats from each group after10,20,30,45 or 60 doses of drug administration. The methodof preparing met~ase spreads from bone marrowaccording to Palmer et a1. (1972) and Giemsawas usedstain wasprepared according to the method described by Genest andAuger (1963).For each rat, 500 cells were counted and the percentageof the transformed cells were calculated. For chromosomalanalysis, 50 metaphases were examined for thepresence of any chromosomal a~omalies either structural ornumerical, and the results were tabulated and tested usingthe student t test. ·The results of the present studyrevealed the following :1- The mean transformed cell percentage in control samolesafter 10,20,30,45 and 60 days were 24.28%±1.5623,23.96%±2.0336, 23.66%±1.5762, 24.36%±1.8808 and 24.06%±1.8055respectively and there was no significant statisticaldifference between them (P·