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Introduction

Medicinal plants used in the treatments of various ailments in Nigeria are numerous, one of which is Ficus capensis. e plant, Ficus capensis (Moraceae), also known as Ficus sur is a spreading deciduous or evergreen tree commonly known as g tree. Ficus capensis is a medium sized tree mainly found in the tropics and growing up to 6-9 metres high [1-4]. In Igala folk medicine, it is used for the treatment of several febrile ailments, infectious diseases and for boosting the immune system [5-6]. In other studies, in Nigeria, the plant has been reported to be used in the management of dysentery and wound dressing [7] circumcision, leprosy and epilepsy, rickets, infertility, gonorrhoea, edema, respiratory disorders and as an emollient [1,8].

Several chemical constituents of plant material are responsible for the medicinal properties of plants used by traditional medical practitioners. ese chemical constituents may include alkaloids, tannins, steroids, avonoids, terpenoids, lipids, complex carbohydrates, glycopeptides, peptides and amines, cyanogens, and inorganic ions among numerous others [9]. Some of these compounds may elicit toxic response, making them inherently dangerous when consumed [10]. is present study was therefore aimed at evaluating the acute and sub-chronic toxicity of defatted chloroform extract of leaves of Ficus capensis in rats, as a part of a wider study.

Materials and Method

e plant materials were collected from Anyigba, North-Central Nigeria. ey were identi ed by the Biological Sciences Department, Kogi State University, Anyigba, Nigeria. e plant samples (leaves) were collected in bags and then washed to remove debris. ey were air dried at room temperature for about two weeks. en it is pulverized using high speed Creston grinder. e pulverised samples were stored in plastic containers in the open laboratory until they were required.

e animals used for the study, albino rats (Rattus novergicus) of either sex, were obtained from the Animal House of the Department of Biochemistry, Kogi State University, Anyigba. e animals used in this experiment were adult albino rats. All the animals were kept in the Animal House of the Department of Biochemistry, Kogi State University, Anyigba, and were fed on standard laboratory food and water ad libitum. All animals were handled humanely.

Extraction

To obtain the chloroform extract, the leaves were rst defatted with n-hexane. e pulverised plant sample (1000 g) was macerated in ve litres of n-hexane in a capped vessel for 24 hours. erea er, the macerate was ltered through Whatman No 1 lter paper using a Speedvac vacuum pump. e residue obtained from the ltration was collected, dried and macerated in 5 litres of chloroform for another 24 hours, the ltrate was then concentrated using a rotary evaporator and

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n-hexane. Fifty-six healthy albino rats (174 ± 24 g) were randomized into seven groups o
females) each for the acute toxicity study. Sixty healthy albino rats (183 ± 39 g) were rando
10 animals (5 males, 5 females) each for the sub-chronic toxicity study. One group served a
groups were administered with graduated doses of the extract. Animals that became mo
DQG DQLPDOV WKDW VXUYLYHG WKH DFXWH WHVW S
IHPDOH IURP HDFK JURXS RI WKH VXE FKURQLF WR[L
observed for physical signs of abrasions. The activities of marker enzymes such as serum a
serum alanine transaminase and serum alkaline phosphatase, and total protein were det
PCV was determined using the haematocrit capillary method. The median lethal concentrati
albino rats was >5000 mg/kg body weight. There were no obvious signs of pharmacotoxici
animals. There were no visible signs of abrasions or morphological changes in the organs o
comparison to the control animals. Although the values of biochemical parameters obtaine
GLIIHUHG VLJQLÀFDQWO\ S IURP WKDW RI WKH
results suggest that defatted chloroform extract of leaves of Ficus capensis does not provo
models and may not be acutely or sub-chronically toxic in albino rats.

dried on a water bath to obtain the chloroform crude extract and the yield was determined relative to the starting material

Median Lethal Dose (LD_{50})

e LD_{50} was carried out by the revised Up and Down procedure (UPD) (USEP, 1998). A single dose of 3000 mg/kg body weight was administered to 4 healthy albino rats p.o. If the mortality of more than two animals was observed, the dose was reduced, but if mortality observed was less than two animals the dose was increased to 5000 mg/kg body weight erea er, there would be no need to increase the dose.

Acute Toxicity Studies

Fi y-six healthy albino rats (174 ± 24 g) were randomized into seven groups of 8 animals (4 males, 4 females) each. Each animal in Group 1 was treated p.o. with a single dose of 800 mg/kg body weight of the crude extract in 5 ml of normal saline. Similarly, each animal in Groups 2, 3, 4, 5, and 6 were treated with 1200 mg/kg, 1600 mg/kg, 2000 mg/kg, 3000 mg/kg and 50000 mg/kg body weight of the crude extracts respectively. Group 7 animals, the control group ret . wln(t)-6 2Uhhf toUPD.1 J 0.bg b.b3 (h)46 (h)4.51 (a)-010 (ude 6813 (o)11 (ue)-5 (d)12 (uce)9

appetite and progressive weight loss was also apparent in the treated animal; these were however reversed in the period post treatment. Aside this no serious pharmacotoxic sign was observed in the treated animals. Mortality check revealed that one female animal that received normal saline from the control group died on the eighteenth day. On the twenty rst day, a female animal treated p.o. with 800 mg/kg body weight. of the extract died. On the twenty sixth day one male and one female in the groups treated p.o. with 2000 mg/kg body weight also died.

ere was a signi cant ($p<0.05$) decrease in the PCV values of the animals treated with the test substances compared to the control animals. e decrease was not dose dependent but was time dependent. ere was an apparent increase in the PCV value post treatment as shown in Table 2.

Tables 3-6 shows the values of biochemical parameters such as AST, ALT, Alkaline phosphatase and total protein of treated and control animals. e values for animals treated with chloroform extract of Ficus capensis were signi cantly di erent from the values of the control animals, but the values for the treated animals and the controls were within the reference range.

Discussion

ree treated animals died in the period of the experimental

Sex	Treatment (mg/kg b. wt)	ALP (U/L) after days of treatment				
		7 Days	14 Days	21 Days	28 Days	7 Days Post Treatment
Male	Control	112.51	112.21	113.45	112.64	113.09
	100	114.26	115.38	116.19	119.03	119.05
	400	115.32	116.22	117.84	119.67	119.23
	800	118.32	121.98	122.23	122.87	121.98
	1200	117.94	126.33	125.2	129.07	128.67
	2000	118.44	124.16	126.19	128.43	128.08
Female	Control	83.08	81.23	84.97	83.68	83.56
	100	95.9	96.07	96.34	96.51	96.45
	400	95.32	96.25	96.37	96.48	96.42
	800	94.07	96.51	96.43	98.12	97.89
	1200	88.51	91.23	93.07	97.89	97.31
	2000	96.49	110.01	110.37	112.09	112.021
Reference range		73-207				

28 Days

T4047.46377m 31.269 0

Table 5: Effectt) 6 0 Td (128.67)Tj -24.361 -1.98.1296.city (14he a96[(1)74.1 (154.467 0 Td (96.37)7.89)Tj mj 5.203 0 6 0 Td nic)-Td 95.3gx.2596.5196.4396.5196.4340095

28 Days

28 Days

TC3634-49287782Days
TC3885j47.46377m 31.269 0 l Td1 q 1 0 0 1 180.9255