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Research Article

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QUALITATIVE AND QUANTITATIVE ANALYSIS OF DICLOFENAC SODIUM IN MILK AND DAIRY PRODUCTS.

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ABSTRACT

The numbers of antibiotics ,pain killers are important role in the society particularly animal and human life. In this case diclofenac sodium (DFS) is used to treat pain, inflammatory disorders, and dysmenorrheal.Inflamatory disorder may include musculoskeletal complaintsto the animals and human to prevent the different pains. But not only some of the harmful in the nature to the animal and human life. Suppose after usage of this antibiotic the milk was contaminated with the residues of Diclorofenac sodium. We examine 4 different she-buffalos for our research work. In our research work collect the raw milk, boiled milk, and curd milk and some different food stuff. And also analyzed for Diclofenac sodium (DFS) by using H.P.L.C at 258 nm with UV detector. In this case satisfactory results were obtained.

INTRODUCTION

Diclofenac sodium (DFS) is a enteric coated tablets and is a benzene. Acetic acid derivative. These tablets having the 75 mg (Light pink) for oral Administration. The chemical name is (2-6 dichlorophynyl) amino benzene acetic acid monosodium salt. The molecular weight is 318.14 and this molecular formula is C14H10Cl2NaO2 and it has the following structural formula. In this case the diclofenac sodium (DFS) is used to animals to prevent the some severe diseases.

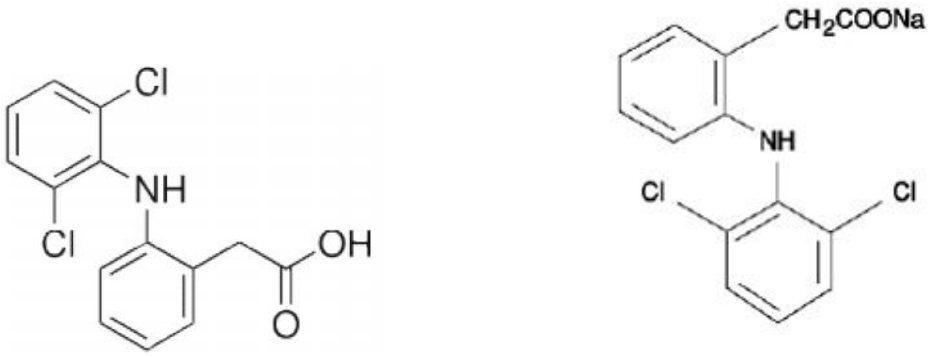

Fig-1

MATERIALS AND METHODS

Instruments

H.P.L.C- PEAK

COLUMN – CHROMOSIL C18

INJECTPORT – ROHDINE

INJECTOR- HAMILTON

Chemicals:

Acetonitrile –MERK

Water -MERK

Mehanol –MERK

Fig-2

PROCEDURE

In this case the different samples were taken from the diclofenac injected she –buffalos after 24 hours injecting. To examine the 4 samples of raw milk (four individuals) after boiling (same individuals) and inoculation of the same samples of milk. But not only we were collected the milk,(without injecting) (or) (without treatment)butter milk, and dairy sweets(milk products)from the local market for analysis. The sample preparation was performed. Take 4 test tubes each test tube having 4 ml of methanol and 1 ml of milk sample and mixed well with the help of shaker system. After shaking well to filtrate the each sample with Whitman filter paper then the samples were ready for analyzing with H.P.LC Peak. Now from the filtrate milk sample to take 20µL Sample was injected into the H.P.L.C . Then observed H.P.L.C Report. Basing on the calculation the drug value by using statistical formula. Then the chromatographic conditions for analysis of Diclorofinac (DFS) are given in the following table very clearly and shown. The sample (liquid 20 % v/v, solid 20 %w/v) preparation was performed by shaking with a mixture of Water-Methanol (30%:70% v/v) followed by ultra-filtration. Prepared samples are injected in to H.P.L.C to estimate quantity of Diclofinac sodium .Chromatographic conditions[10] for analysis of Diclofinac sodium are given in Table: 1.Standard chromatogram was shown on Fig.2

Mobile phase	70:30
Column	C18,250×4.6mm
PH	5.0
Wave length	258nm
Flow rate	1 ml/min
Run time	6 Min
Retention time	2.38
Sample volume	20 µL

Table – 1

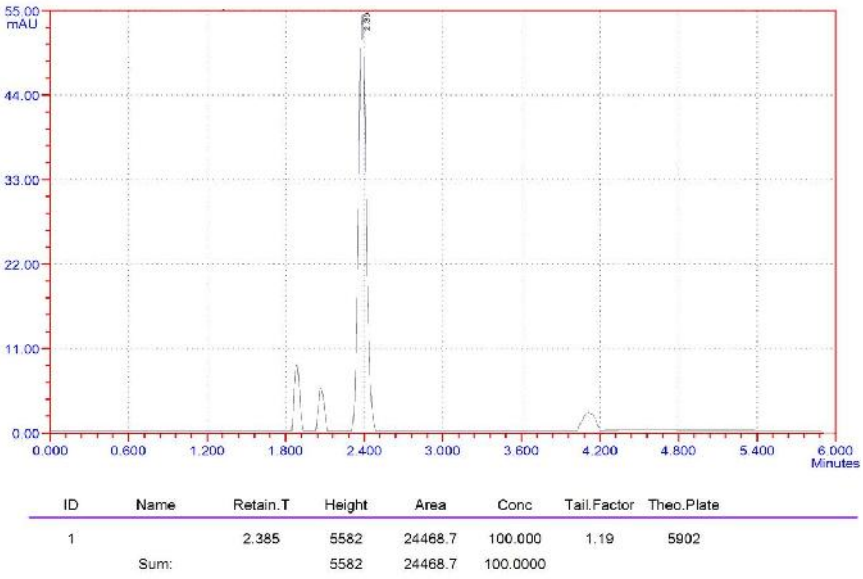

Fig-3

RESULTS

S.NO	NAME OF SAMPLE	AMOUNT OF DRUG in ppm
	Raw milk sample	
1	Sample -1	**17.315**
2	Sample-2	**9.025**
3	Sample -3	**10.587**
4	Sample-3	**10.490**
	Boiled milk	
5	Sample-1	**9.827**
6	Sample-2	**8.974**
7	Sample-3	**8.794**
8	Sample-4	**5.724**
	Inculcated milk	
9	Sample-1	**4.791**
10	Sample-2	**9.229**
11	Sample-3	**15.502**
12	Sample-4	**10.768**
13	Packet Milk from market	**4.061**
14	Buttermilk from market	**4.714**
15	Raw milk & boiled	**4.460&5.658**

Table-2

From the above table we concluded Raw milk has 9.025-17.315 ppm range of DFS in milk after 24 hours of injecting. But in boiled milk the amount DFS decreased i.e. 5.724-9.827 ppm. . After inculcation there is no big changes in amount of DFS, one more important observation is there is no formation of curd. May be it is due to presence of antibiotic of DFS. On examination of local samples (milk, boiled milk butter milk,) we found very low amount of DFS in 4.061-5.658 ppm, In sweets there is no DFS residues.

Fig-4

CONCLUSION

SDD is more powerful antibiotic for animals, DFS residues also present in raw milk, boiled milk and dairy products in low amount, D resists the process formation of curd from milk. Milk after treatment with DFS is harmful to children.

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