Research Article

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QUALITATIVE AND QUANTITATIVE ANALYSIS OF AUREOMYCIN IN MILK AND DAIRY PRODUCTS.

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Abstract:

Aureomycin (or-e-o-maisin) is a yellow crystalline Antibiotic and used to treat certain bacterial and Rickettsial Diseases. It is commonly known as chlortetracycline. This Antibiotic has the chemical substance derived from a mold (or) bacterium that can kill Microorganisms and cure bacterial infections in Animals and human life also. 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 stuffs and analyzed Aureomycin by using H.P.L.C at 254 nm with UV detector. In this case satisfactory results were obtained.

Key Words:

Milk, Aureomycin, H.P.L.C, Antibiotics, 254nm

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Introduction:

The Antibiotics are Drugs that are used to treat infections caused by bacteria and other organisms including protozoa, parasites, and fungi. Many treatments for cancer destroy disease fighting on white blood cells thereby reducing the body's ability to fight infections. For example bladder, pulmonary and urinary tract infections may occur with chemotherapy. However they can cause serious infections in

individuals with low white blood cells count .Because of the dangers that infections present for cancer patients also Antibiotic treatment often is initiated before the exact natures of the infections have been determined, often that an antibiotic that kills a broad spectrum of bacteria is chosen. In this case the Aureomycin is used to animals to cure the some severe diseases. So such type of drug is transferred from animals to human through milk, curd, butter milk and boiled milk also so by using this drug to effect on human life as side effect like cancer and infections etc. Several Techniques have been used for Aureomycin residues Analysis in milk Currently, HPLC Techniques are considered the method of choice for both quantization and screening tests on account on their versatility and selectivity. Although several HPLC methods, mainly using a C18 column have been used for Aureomycin Analysis. An alternative procedure is still needed when a check analysis is desired. In this paper, we describe a HPLC-UV method used for detection, Qualitative and quantitative residues in milk samples at the ppm level.

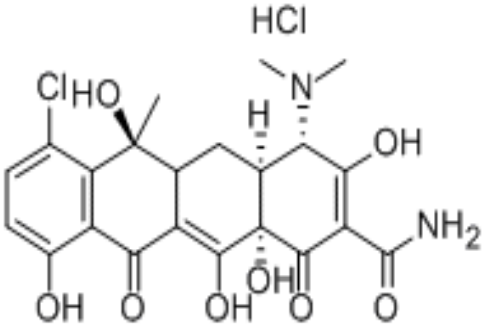

Figure-1: structure of Aureomycin

Materials and Methods

Instruments

H.P.L.C – PEAK

COLUMN – CHROMOSIL C18

INJECTPORT – ROHDINE

INJECTOR – HAMILTON

Chemicals:

Acetonitrile –MERK

Water -MERK

Methanol –MERK

Figure-2: Sampling from Animal

Procedure

The present review has been necessarily limited in scope because of volume of literature in the Antibiotic field. These are maintained or key role of the drug nature in animals and the human life. Number of the investigators to investigate the different drugs mainly in this case Aureomycin structure and configuration of Antibiotics are in progress. While number of studies are probing into possible mechanisms of and gradually providing clear understanding of the nature of the Antibiotic activity. In this case the Aureomycin has fundamental knowledge of the chemical nature of compounds concerned. In this case and in our Research work done by me at this time take and The Antibiotic (Aureomycin) injected to 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 to gather and examine the different composition of the sweets collected from bakery that is dairy products also. The sample preparation was performed. In a series of 4 test tubes 1ml of the milk sample was taken and the drug was extracted with 5ml of Methanol, shaken thoroughly. Then it is filtered through 0.5micron ultipore filter paper. The filtrate was used for the analysis of Aureomycin. 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. The chromatographic conditions for analysis of Aureomycin residues 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 (40%:60% v/v) followed by ultra-filtration. Prepared samples are injected in to H.P.L.C to estimate quantity Aureomycin residues. Chromatographic conditions[10] for analysis of Aureomycin are given the following data.

Table: 1 Chromatographic Conditions

Parameter	Condition
Mobile Phase	Acetonitrile:0.05M Potassium Dehydrogenate Phosphate
	(40 : 60)
Column	C18
Wave length	254
Flow	1ml/min
P^H	6.6
Sample Volume	20µl
Runtime	8min
Temperature	Ambient

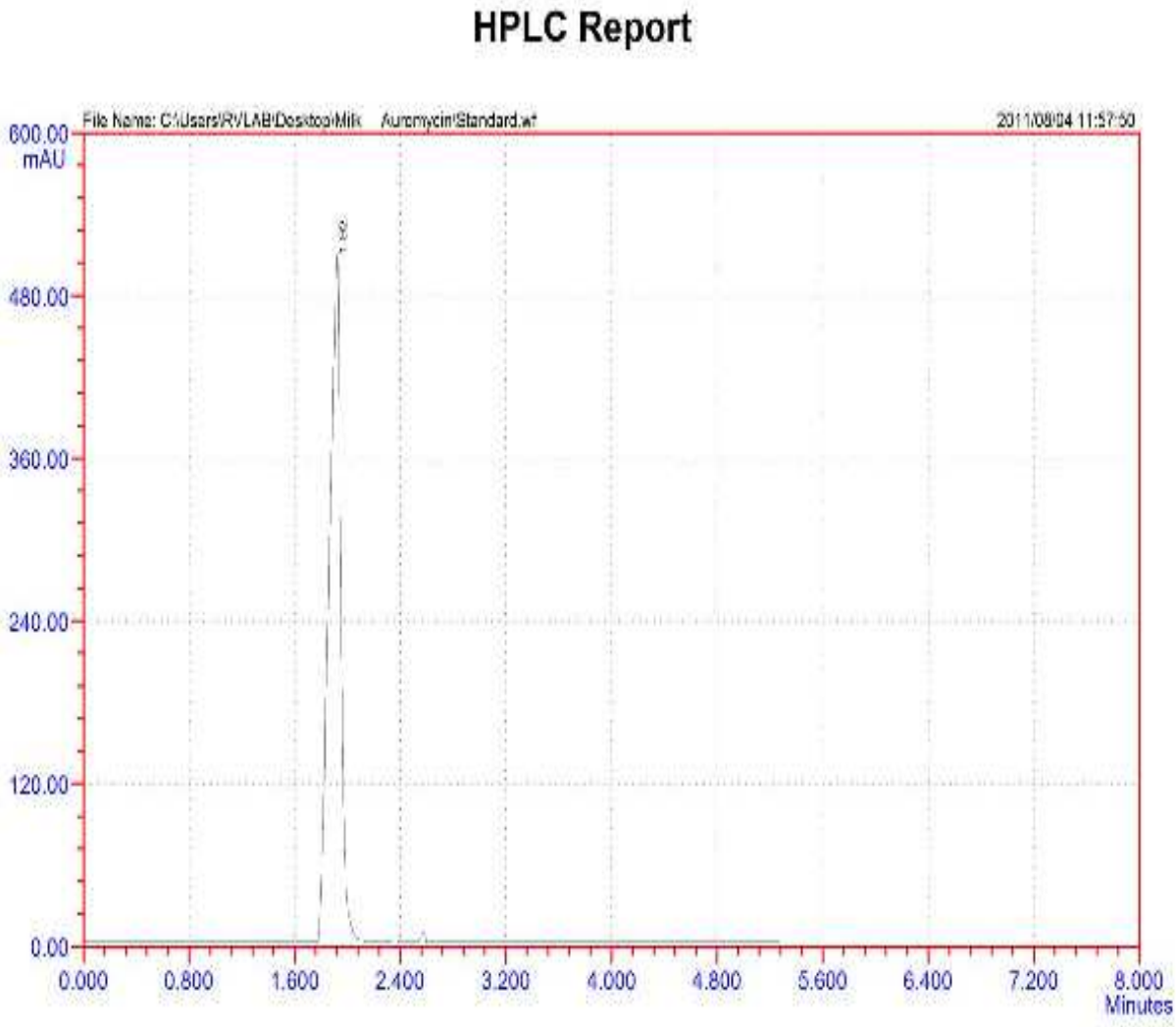

Figure.3: chromatogram of Aureomycin.

Results

S.NO	SAMPLE	Amount of Aureomycin in Milk Samples (ppm)
1	Standard	100
2	Sample-1 (Raw milk)	3.62
3	Sample-2(Raw milk)	4.58
4	Sample-3(Raw milk)	3.86
5	Sample-4(Raw milk)	3.13
6	Sample-1 (Boiled milk)	2.58
7	Sample-2 (Boiled milk)	2.80
8	Sample-3 (Boiled milk)	2.25
9	Sample-4 (Boiled milk)	1.89
10	Sample-1(curd)	0.85
11	Sample-2(curd)	0.63
12	Sample-3(curd)	0.85
13	Sample-4(curd)	0.42

Table-2 : **Aureomycin concentration in Milk samples**

From the above table we concluded raw milk has 2.3-4.2 ppm range of Aureomycin in raw milk. For estimation of Aureomycin we prepared curd also with raw milk but not only different sweets from bakery and then we estimated target drug by same procedure. The target drug is identified in curd also but concentration is decreased. In regular health check up and treatment doctors giving this anti biotic to the animals. May this drug will affect very little Childs.

Figure-4: Milk samples

Conclusion

The increase in life expectancy seen during the 20th century in many parts of the world is no too familiar to required lengthy discussion. Aureomycin this antibiotic is transferred to the human life through milk as per my observations the drug is gradually increased in Raw milk and decreased in boiled milk and increased in curd and increased dairy products. The Aureomycin is more powerful antibiotic for animals, after treatment with Aureomycin residues is harmful to children and adult also and lives organisms. But some cases curd not having any drug amount as my observation.

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