Cytogentic and bacteriological study of raw and magnetic milk

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Abstract:

This study was conducted to investigate the efficiency of magnetic system in milk sterilization. This was done using bacteriological, (total microbioal count) and cytogenetic (mitotic index and chromosomal aberration of bone marrow)investigations .Results indicated a reduction in total milk microbial count. On the other hand, mitotic index was increased and chromosomal aberration in bone marrow was decreased in magnetic milk as compared with raw milk. In conclusion, milk sterilization might performed using magnetic field application.

Introduction:

Although, milk is sterile within the udder and its let down, it might be bacteria contaminated befor its secreted from the udder. Except for mastitis that caused by infectable types of bacteria (*Staphylococcus areus, streptococcus uberis and Coliform spp*), the bacteria in this position is undeteimable and harmless.Other microbial contamination may take place during milking, handing, storage and pre-processing operations [1]. Dairy plants always used pasteurization to prevent bacterial contamination. However, this process may degraded some of milks valuable nutrients [2]. Food preservation act either to kill or deny microorganisms. Food preservation includes heating, cooking, smooking, salting and drying.Currently, food preservation factors used modern methods like microwave cooking,plasma types of radiation such as ultraviolet light and magnetic fields [3]; [4]. Static magnetic fields (SMF) and oscillating magnetic fields (OMF) have been used as agood methods for microbial inactivation.For SMF, the magnetic field intensity is constant with time, wherease, OMF is usually applied in the form of either constant or decayng amplitude sinusoidal waves [5].