INCIDENCE OF MYCOPLASMA INFECTION IN MASTITIC COWS AND BUFFALOES IN UPPER EGYPT
(With Two Tables)

By
A.M. ZAITOUN; T.A. EL-ALLAWY; I.S. ABDALLAH; A.A. EL-EBEEDY*; S.I. EISSA* and LAILA EL-SHABINY*

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SUMMARY

Seven Friesian dairy herds and 301 dairy buffaloes were investigated in this study. The incidence of Mycoplasma in mastitic cows and buffaloes was 17.75% and 2.04% respectively. All isolated strains were identified biochemically and serologically as Mycoplasma bovis and Mycoplasma arginini. No Mycoplasma could be isolated from normal or subclinical mastitic milk of cows and buffaloes.

INTRODUCTION

Mastitis is a serious disease of dairy cows and buffaloes and it has still implicated as one of the major disease problems in dairy industry (AKL, 1988). The emergence of Mycoplasma as an important pathogen in the last twenty years has been due primarily to its resistance to antibiotics (EL-EBEEDY, et al. 1985 and EISSA, 1986). Bovine

* Animal Health Research Institute, Dokki, Cairo.


Mycoplasma arginini is one of the few Mycoplasmas isolated from cattle (EISSA, 1989). Both Mycoplasma bovis and Mycoplasma arginini were isolated from mastitic milk of buffaloes and cows by PALE, et al. (1984) and EISSA (1989) respectively.

The aim of the present investigation was to study the incidence of Mycoplasma infection in clinical and subclinical mastitic cows and buffaloes in Upper Egypt.

**MATERIAL and METHODS**

A total of 1990 dairy Friesian cows, in seven herd, and 301 dairy buffaloes in some governorate, Assiut, Sohag and Gena, of Upper Egypt were subjected to this work. All examined animals were between the first and fifth Lactation seasons. Regarding to the clinical observations (BLOOD, et al. 1981) and California mastitis test (CMT) (SCHALM and NOCRLANDER, 1957) mastitic animals were classified into clinical and subclinical conditions. All milk samples were collected in sterile screw capped bottles as method described by AKL (1981) after performing CMT.

Mastitic milk samples were cultured in HN broth and agar media by the methods described by SABRY, et al. (1976). Biochemical characterizations of the isolated purified strains were carried out as described by ERNO and STIPKOVITS (1976). The isolates were identified serologically by growth inhibition (clyde, 1964) and Counter-immuno-electrophoresis tests (bois, et al. 1984). Fifty normal milk samples were subjected to this investigation.

References antisera against Mycoplasma bovis and Mycoplasma arginini were obtained from National Institute of Allergy and Infectious Diseases, Bethesda, Maryland, U.S.A.

**RESULTS**

Incidence of clinical and subclinical mastitis among investigated dairy cows was 13.87% (276 out of 1990) and 29.94% (569 out of 1990) whereas this incidence in dairy buffaloes was 16.27% (49 out of 301) and 34.55% (104 out of 301) respectively (Table 1 & 2).
INCIDENCE OF MYCOPLASMA MASTITIS

Two hundred and seventy six milk samples were collected from 276 clinical mastitic cows. Out of these forty nine cows were proved to be infected with Mycoplasma (17.75%), where eighty three isolates were recovered. Forty seven out of eighty three isolates (56.63%) were digitonin sensitive, did not ferment glucose or split arginine and inhibited by Mycoplasma bovis antiserum and the remainder thirty six isolates (43.37%) were digitonin sensitive, did not ferment glucose but split arginine and inhibited by Mycoplasma arginini antiserum Table 1.

In dairy buffaloes, one out of forty nine clinical mastitic buffaloes (2.04%) was proved to be infected with Mycoplasma, where eight isolates were recovered. Four out of eight isolates were Mycoplasma bovis and the other four isolates were Mycoplasma arginini. Table 2.

Most of the infected animals yielded white yellowish coloured milk with arget clots which settled out leaving a colourless supernatant fluid and the mammary tissues were suffered from fibrosis.

No Mycoplasma could be detected from normal or subclinical mastitic milk of dairy cows and buffaloes.

DISCUSSION

It is evident from Table 1 & 2 the incidence of clinical and subclinical mastitis was 13.87% and 29.94% in cows meanwhile this incidence in buffaloes was 16.27% and 34.55% respectively. Such results are slightly higher than those of MOUSTAFA (1979). Higher incidence of subclinical mastitis in buffaloes and cows was recorded by NOORI and TAURO (1979) and AHMED (1981) and lower incidence was recorded by SINOUSSI, et al. (1975). Concerning the variation in the incidence of mastitis in cows and buffaloes as shown by the results of this study and those obtained by other investigations in different areas all-over the world; it is concluded that the incidence of this disease depend upon many factors including breeding system, hygienic measures and sanitation during milking and immunological state and rate of exposure of such animals to pathogenic organisms as well as other factors which are still in need of further investigations. Failure of some mastitic cows to antimastitic therapy, let us to take attention for studying the Mycoplasma mastitis. It was found that the incidence of Mycoplasma mastitis in cows ranged from 4.28% to 29.27% Table 1.

This results agreed with ANON (1979) and EIissa (1989). Highest incidence was recorded in Egypt by EL-EBEEDEY, et al. (1985) and EIissa (1986); such higher incidence is due to severe outbreak of Mycoplasma mastitis in dairy Friesian herd occurred in Shobra Shehab and El-Kanater El-Khairia (Kailoubia governorate) farms.
Similar studies were carried out to investigate the Mycoplasma mastitis in dairy buffaloes. The incidence of Mycoplasma mastitis in buffaloes was 2.04% (Table 2). This result is lower than result previously obtained by PALE, et al. (1984) in India. Isolation of Mycoplasma bovis and Mycoplasma arginini from clinical mastitic milk of buffaloes appear to be the first record in Egypt.

The affected animals had a typical signs of Mycoplasma mastitis in that mastitis was severe with characteristic appearance of the milk secretion and did not respond to antimastitic drugs. This observations are similar to those previously obtained by BICKNELL, et al. (1983); EIICSA (1986) and AHMED (1987).

REFERENCES


INCIDENCE OF MYCOPLASMA MASTITIS


Specs were isolated. more than one strain was isolated from the same animal.

N.B. From 276 clinical mastitic cows, 49 cows isolated with mycoplasma, where 32 strains belonged to two different

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Tab. No. 1: Incidence of mycoplasma mastitis in 7 dairy production herds.
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Table 2: Incidence of Mycoplasma mastitis in dairy bacteriologic and pathologic studies.

Note: From 49 clinical mastitic bacteriologic samples, Mycoplasma were isolated from the same quarter.

No. of Mycoplasma isolated from different quarters were isolated from the same quarter.