قسم ـــــــــى : الولادة والطفيليات ـ كليتى الطب البيطرى ، الطب ـ جامعة أسيوط.
رؤساء الأقسام: أ.د / ممدوح عثمان ، أ.د / عماد كامل

البكتريا المسببة للشيوع المتكرر فى اناث الجاموس فى مصر العليا

ممدوح عثمان ، محمود النجار ، عبد الخالق الطماوى ، باهـــى ســـــرور

قام الباحثون بأخذ مسحة من الفتحة الخارجية لعنق الرحم لدراستها بكتريولوجيا وذلـــك بعمل فحص اكلينيكى لعدد ٢٠٠ جاموسة مصابة بشياع متكرر وعدد ٣٦ جاموسة طبيعية الشيوع وذلك من محطة البان الحواتكة ومدرسة الزراعة بأسيوط وكذلك عدد تسع قرى تابعة لأســـيوط وابـــوتيج .

وكانت البكتريا المعزولة من الحيوانات الطبيعية ١٠ ميكروكوكاى وعدد ٤ جافيكا ، وعـــدد ٤ بميكروب سبحى مذيب لدم وعدد ٨ ميكروب سبحى غير مذيب للدم وعدد ٣ من الاى كـــولاى وعدد ٤ ميكروبات موروفية كولاى فورم وعدد ١٥ أنثراكويد ، اما تلك الميكروبات التى تم عزلهـــا من الجاموس المصاب بظاهرة الشيوع المتكرر فهى عدد ٣٨ ميكروكوكاى ، وعدد ٣١ ميكـــروب عنقودى وعدد ٣٣ ميكروب سبحى مذيب للدم ، وعدد ١٣ كورينى ، وعدد ١٧ كورينى غـــير مصنفة ، وعدد ٢٠ الاى كولاى وعدد ٣٤ كليسيلا وعدد ٣٤ بروتيوس وعدد ٣٠ انثراكوبـــــد

ولقد وجدت بعض الفروق فى البكتريا المعزولة المسببة للأمراض الصديدية بالجهاز التناسلى كالعنقودية والكورينى والكورينى الغير مصنفة والكليبسيلا حيث أنها توجد فى الجاموس المصـــاب الشياع المتكرر ولا يوجد فى الجاموس الطبيعى الشيوع. ولقد وجدت بعض الميكروبات السبحيـــة المذيبة للدم وبنسبة بسيطة فى الجاموس الطبيعى الشيوع والتى من الممكن أن تتكاثر وتتحـــول بسبب قلة المقاومة فى الجسم وتتحول الى ميكروبات مسببة للأمراض ويتحول الحيوان الطبيعـــى الشيوع الى حيوان مـــتردد الشيوع.

ولقد تم عزل انواع اكثر من البكتريا فى حيوانات القرى عنها فى الحيوانات التى توجد فـــى المزارع الحكومية.

Dept. of Obstetrics, Gynaecology & A.I.,
Faculty of Vet. Med., Assiut University,
Head of Dept. Prof. Dr. M.A. EL-Naggar.

BACTERIOLOGICAL STUDIES OF THE REPEAT BREEDER BUFFALO COWS IN UPPER EGYPT

(With 3 Tables)

By

A.M.H. OSMAN, M.A. EL-NAGGAR, A.A.M. EL-TIMAWY* and B.H. SERUR

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SUMMARY

Bacteriological examination of cervical samples were obtained from El-Hawatka buffalo farm (82 repeat breeder and 36 normal breeder buffaloes), Assiut Agriculture school (9 repeat breeder) and from 9 villages in Assiut and Abutig (109 repeat breeder).

The bacterial flora which were isolated from the normal breeder buffaloes were, 10 micrococci (20.84%), 4 Gaffica (8.33%), 4 B-haemolytic streptococci (8.33%), 8 ∝ -haemolytic streptococci (16.66%), 3 E.coli (6.26%), 4 paracolon group (8.33%) and 15 Anthracoid (31.25%).

However, the bacterial organisms which were isolated from teh repeat breeder buffaloes were 38 micrococci (13.42%), 31 staphylococci (10.95%), 33 B-haemolytic streptococci (11.68%), 13 C.pyogenes (4.59%), 17 unclassified coryn-bacterium (6.01%), 20 E.coli (7.07%), 34 klebsiella (12.01%), 34 proteus (12.01%) and 30 Anthracoid (10.6%). The repeat breeder buffaloes exhibited more pathogenic organisms(staphylococci,C.pyogenes, unclassified corynebacterium and Klebsiella)which were not present in the normal breeding animals. However, few normal breeder cows harboured streptococci as a pathogenic bacteria, These bacteria might flourish under favourable conditions as lowered resistance of the animal or other stress factors.

The bacterial isolation from villages was more than that from the Governmental farms.

INTRODUCTION

Some investigators (THYGESEN, 1948; RASBECH, 1954; GEISSLER, 1954; DAWSON, 1960; ZAKI et al. 1962; BARAKAT, 1965; ROBERTS, 1971; AWAD, 1972; ABO-EL-ATA (1973) and AWAD et al. 1977), could isolate, E.coli, M.albus, streptococci, corynebacterium pyogenes, M.aureus, proteus, B.subtilis, Pseudomonas aeruginosa, M.citrus,B.liqueficans and yeast from normal breeding cows as well as from other ones affected with cervicitis, endometritis and metritis.

Repeat breeding syndrome disturbs the reproductive effeciency of animal either due to failiure of fertilization (ROBERTS, 1971) or early embryonic death (BHOSREKAR, 1973). Both of them are reported to be due to the bacterial infection in the uterus (EASLEY et al. 1951; DAWSON, 1960 and ABO EL-ATA, 1973).

Bacterial organisms that causes endometritis in cattle suffered from repeat breeding, occupy the highest percentage in comparison with other causes (CUPPS, 1973). LUFT (1976) studied the fertility status of a dairy herd of cows and found that 67% were repeat breeders as a result of endometritis.

The present study was designed to demonstrate the bacteria causing repeat breeder in buffalo-cows in order to achieve a suitable treatment.

MATERIAL and METHODS

The material examined in this work included 200 buffalo cow, suffering from repeat breeder (El-Hawatka buffalo farm, Assiut Agriculture school, Assiut and Abutig Animal health centres and their villages).

Further 36 buffalo cows with normal estrus were examined as control. Information concerning the breeding history of each animal was collected from the farm book or owner. The animals were Gynaecological examined.

* : Dept. of Microbiology, Faculty of Medicine, Assiut University.

The samples from cervical discharge were taken aseptically for cultivation on different media as: Blood agar, Nutrient agar, Macconkey's agar, Mannitol salt agar, cetrimide agar and alkaline peptone water. After 24 hrs. incubation, alkaline peptone water was subcultured into blood agar to isolate vibrio foetus. All cultures were incubated at 37°C aerobically for 48 hrs.

Suspecious looking colonies from different media were screened morphologically, biochemically according to the methods described by BAILEY and SCOTT (1974) and BUCHANAN and FIBBONS (1974).

RESULTS

Table 1, showed the incidence of animal with infected and sterile genitalia in different localitis. It was evident that high percentage of infected genitalia (91.74%)was present among buffaloes reared in villages. Moreover, the incidence of sterile cases was higher in control groups (16.16%) than in the repeat breeder buffalo cows (9.89%).

It was of interest to mention that single infection of uterus was rarely met with in the buffalo cows reared in villages, in which mixed infection were more predominant. Also the incidence of bacterial infection in Assiut Agriculture school was lower than that detected in El-Hawatka farm as well as the infection was higher in the villages than in the buffalo farms (Table 2).

Table 3, Showed the distribution of the isolated bacteria from control and repeat breeder buffalo cows. It was clear that the number of isolates was markedly higher in repeat breeder buffalo cows than those in control group. Furthermore, the repeat breeder buffalo cows were infected with pusforming microorganisms as staphylococci, Klebsiella, Corynebacterium and un-classified corynebacterium organism which were not present in the control group.

DISCUSSION

The incidence of sterile cases in normal and in repeat breeder buffalo cows 16.6% and 8.9% in normal and repeat breeder respectively, is more or less similar to those recorded by DAWSON (1959), GIBBONS et al. (1959); SHOUMAN et al. (1977) and AWAD and EL-HARIRI (1977). However BARAKAT (1965) recorded higher results.

It was also evident from this investigation that the incidence of repeat breeder buffalo cows was higher (24.61%) in the villages than that found in the Governmental farms (13.9%). Both values were nearly similar to that recorded by EL-NAGGAR and SHERRY (1974) in Assiut province (20%) and EL-SAWAF and SHALABY (1977) in Zagazig province (23%). This data was found to be lower than that of 55% and 40% as recorded by RAKHA (1958)and LUNDGREN (1956) respectively.

The bacteria isolated from the genital tract of repeat breeder buffalo cows in the present study, were nearly similar to those obtained by EL-SAWAF et al. (1960), ZAKI et al. (1961) and BARAKAT, (1965). ZAKI et al. (1962) and RADOSLAVOV, (1975) proved the presence of the same organisms in the genital tracts of infertile cows. So it could be possible that there was no difference between the types of bacteria isolated from the genital tracts of cows or that of buffaloes. It was of interest that many authors like EASLEY et al. (1951); DAWSON, (1960); BARAKAT,(1965); ABO EL-ATA (1973) and AWAD et al. (1977) reported similar results from cows and buffaloe cows suffering from endometrits. There were several bacteria (Gaffica, coliforms, and micrococus) were isolated from normal uteri. The presence of these bacteria could be considered as normal flora of the genital organs. Also, the isolation of C.pyogenes, klebsiella, staphylococci and unclassified corynebacterium from diseased breeders were considered pathogenic as they were isolated only from buffalo cows suffered from repeat breeder. THYGESEN (1948) and RASBECH (1954) isolated C.pyogenes from repeat breeder cows. According to our finding (staphylococci, -haemolytic streptococci and klebsiella) were similar results obtained by ABO-EL-ATA (1973) and AWAD et al. (1977).

Gaffica micrococci, E.coli, coliform and Anthracoids were isolated at the same percentage in both normal and repeat breeder. These strains seemed to be commensals normal flora in the genital tract and might cause

disease with other organisms under adverse condition of genital tracts (BARAKAT, 1965).

Analysis of the results in this study indicated that the single and mixed infections among repeat breeder were higher between the cases in the villages than between that in Governmental farms. This might show the importance of using proper hygenic meaures during and after birth which was more applied in farms than in Villages (ROBERTS, 1971).

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Table (1): The distribution of infected and non infected cases from control and repeat breeder buffalo-cows.

	No. of Buffaloes	Infected		Non-infected cases	
		No	%	No	%
Control group	36	30	83.84	6	16.16
Repeat breeder group:farms	91	82	90.11	9	9.89
Villages	109	100	91.74	9	8.26
Total	236	212		24	

Table (2): The distribution of single and mixed infection among repeat breeder buffaloe cows in farms and Villages.

Bacteriological condition of infected genitalia	Control group El-Hawatka farm	Repeat breeder groups					Total
		El-Hawatka			Agric school	Assiut & Abutig	
		I	II	total			
Single infection	12	25	18	43	6	35	84
Mixed infection	18	13	17	30	3	65	98

Table 3: The distribution of isolated bacteria from control and repeat breeder buffalo-cows.

	Control		Repeat breader											
			Group I Elhawatka		Group II Elhawatka		repeat breeder from Elhawatka		Agriculture School		Assiut and Abutig		Total of repeat breeder	
	No.of isolates	%	No.of isolates	%	No.of isolates	%	No.of isolates	%	No.of isolates	%	No.of isolates	%	No.of isolates	%
Micrococcus spp.	10	20.84	9	17.65	6	11.11	15	14.29	1	8.33	22	13.25	38	13.42
Gaffica	4	8.33	-	-	1	1.85	1	0.95	-	-	-	-	1	0.35
Pathogenic staphylococci	-	-	10	19.61	11	20.37	21	20.00	1	8.33	9	5.41	31	10.95
B-Haemolytic streptococci	4	8.33	7	13.73	6	11.11	13	12.38	1	8.33	19	11.45	33	11.68
∝-Haemolytic streptococci	8	16.66	8	15.69	7	12.96	15	14.29	1	8.33	11	6.63	27	9.54
C.pyogenes	-	-	2	3.92	-	-	2	1.91	-	-	11	6.63	13	4.59
Unclassified corynebacteria	-	-	2	3.92	1	1.85	3	2.86	-	-	14	8.43	17	6.01
E.coli	3	6.26	2	3.92	6	11,11	8	7.62	1	8.33	11	6.63	20	7.07
Para colon group(Coliform)	4	8.33	-	-	-	-	-	-	-	16.67	-	-	-	-
Klebsiella spp.	-	-	3	5.88	3	5.56	6	5.71	2	-	26	15.66	34	12.01
Ps.aeruginosa	-	-	-	-	5	9.26	5	4.76	-	-	-	-	5	1.77
Anthracoid	15	31.25	2	3.92	4	7.41	6	5.71	-	-	24	14.46	30	10.60
Proteus spp.	-	-	6	11.76	4	7.41	10	9.52	5	41.68	19	11.45	34	12.01
Total	48		51		54		105		12		166		283	