

الميكوبلازما فى الجهاز التناسلي للجمال

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تمت للراسية الميكوبلازما فى ٣٩٤ مسحة مهبلية ومسحة جراب لاناث وذكور الجمال
وذلك بزراعتها على الاوساط الغذائية الخاصة لنمو وعزل الميكوبلازما .

وقد تم تصنيف الميكروب المعزول وتحديد نوعه بيوكيميائيا وسيرولوجيا ، وكانت نسبة
العزل الكلية ٢٤% من مجموع المسحات . وكانت أعلى نسبة معزولة من المسحات المهبلية
للاناث الغير عشار (٢٥%) فى حين أن أقلها كان من الانااث العشار (١٢,٥%) . هذا وقد
بلغت نسبة العزل ٣٢% من مسحات الجراب . ولقد تم عزل الميكوبلازما أرجنين من المسحات
المهبلية للانااث الغير عشار علاوة على مسحات الجراب . بينما عزلت الاكيلوبلازما بوديلى الغير
مرضية من المسحات المهبلية للانااث العشار ومسحات الجراب .

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GENITAL MYCOPLASMOSIS OF CAMELS (With 2 Tables)

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SUMMARY

Mycoplasma flora colonize the genital tract of camels were studied. A total of 394 swabs were collected from both male and female genitalia and cultured on the specific media.

Genus determination and serological identification of mycoplasma isolates were carried out.

The total recovery rate of mycoplasma was (24.11%), the highest rate was obtained from the vaginal swabs of non pregnant she camels (25%), while the lowest rate was found in the pregnant she camel (12.51%). The preputal swabs show 32.88%.

Mycoplasma arginini was isolated from the vagina of non pregnant she camels. It was also recorded in the preputal swabs of camels.

Non pathogenic strain of Acholeplasma laidlawii was isolated from the vagina of pregnant and non pregnant she camels, as well as from the preputal swabs of camels.

INTRODUCTION

Few investigations on mycoplasma recovered from various systems of camels in Egypt have been reported (AL-ZEFTAWI, 1973; AHMED, 1974; GAD, 1975; SABRY, *et al.* 1976; FAYOD and SABRY, 1979 and SABRY and AHMED, 1986 (I, II), however these investigations did not correlate between the type of isolated mycoplasma and the reproductive status in both male and female camels.

Mycoplasma was normally presented in the urogenital, respiratory and digestive tracts. But under certain conditions it may cause alone or together with viruses and/or bacteria important specific disorders, such as abortion, infertility problems, pneumonia, arthritis or conjunctivitis (FREUNDT, 1985).

Therefore, the aim of this work is to recover and identify mycoplasmas from both male and female genital tract of camels.

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A.S. GAD, et al.**MATERIAL and METHODS****Materials:****A) Swabs:**

146 preputal, swabs, 120 vaginal swabs from non pregnant and 64 vaginal swabs, 64 foetal swabs from pregnant ones were collected from male and female camels aged between 5-15 years old at Cairo abattoir, using sterile cotton tipped swabs.

B) Media:

For the isolation of mycoplasma, the media described by SABRY and AHMED (1975) was used.

Reference antisera:

They were supplied by the National Institute of Allergy and Infectious diseases, Bethesda, Maryland, U.S.A. and the antisera that prepared locally at Animal Health Research Institute, Dokki, Egypt.

Methods:

Direct and indirect culture methods described by SABRY and AHMED (1975) were used.

The digitonin sensitivity test described by FREUNDT, et al. 1973, was used to differentiate between the pathogenic strains (sterol required) and *Acholeplasma* (non pathogenic strains, non sterol required) of mycoplasma.

The biochemical characterization of isolates was carried out according to SABRY (1968) and (ERNO and STIPKOVITS, 1973).

For confirmation, the isolates were tested serologically against reference antisera using growth inhibition (GI) test (CLYDE, 1983) and growth precipitation (GP) test (ERNO and PETERSLUND, 1983).

RESULTS

Ninety five isolates (24.11%) out of 394 swabs collected from the genital tract of both male and female camels were isolated.

Using the digitonin test, 49 strains (51.58%) belonging to genus mycoplasma (digitonin sensitive) and 46 strains (48.42%) belonging to genus *Acholeplasma* (digitonin resistant) were isolated. The highest recovery rate of mycoplasma was obtained from the vaginal swabs of non pregnant she camels (Table 1).

Serological identification of mycoplasma strains recovered from the non pregnant she camels (24 strains) showed that 13 strains (54.17%) were reacted with *Mycoplasma arginini* antisera, while 11 strains (45.83%) showed no activity against known mycoplasmas antisera. *M. arginini* was also identified from 5 out of 18 mycoplasma strains (27.78%) recovered from the prepuce of camels and 13 strains (72.22%) unidentified (Table 2).

Acholeplasma strains isolated from genital tracts of both male and female camels were typed serologically. It was observed that 25 strains (54.35%) reacted with *Acholeplasma laidlawii* antisera, while 21 strains (45.65%) had no reaction with known *Acholeplasma* antisera (Table 2).

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Table (1)
Genus determination of mycoplasma strains isolated from genital tract of camels

Reproductive status	Samples	No. of samples	No. of isolates	Genus Mycoplasma		Genus Acholeplasma	
				No.	%	No.	%
Non pregnant she camels	vaginal swabs	120	30	24	80	6	20
Pregnant she camels	vaginal swabs	64	8	5	62.5	3	37.5
	faetal swabs	64	9	2	22.22	7	77.78
male camels	preputial swabs	146	48	18	37.5	30	62.5
Total		394	95	49	51.58	46	48.42

Table (2)
Serological identification of camels Mycoplasma and Acholeplasma strains

Reproductive status	Mycoplasma strains						Acholeplasma strains				
	<u>M. arginini</u>		Unidentified M		<u>A. laidlawii</u>		Unidentified A.				
	No.	%	No.	%	No.	%	No.	%			
Non pregnant	24	13	54.17	11	45.83	6	4	66.62	2	33.33	
Pregnant	V	5	0.0	0.0	5	100	3	1	33.33	2	66.5
	F	2	0.0	0.0	2	100	7	2	28.57	5	71.43
male	18	5	27.28	13	72.22	30	18	60.00	12	40.00	
Total	49	18	36.73	31	63.27	46	25	54.35	21	45.65	

DISCUSSION

In Egypt, early studies were carried out to recover mycoplasma flora of various systems of camel (AL-ZEFTAWI, 1973; AHMED, 1974; GAD, 1975; SABRY, *et al.* 1976; FAYAD and SABRY, 1979 and SABRY and AHMED, 1986), mycoplasma were isolated from conjunctiva,

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respiratory, digestive and genital tract, but the isolation of these organisms did not correlated with the reproductive status of both sexes of camels.

In the present study swabs were collected from apparently healthy camels.

The results indicated that the highest recovery rate of mycoplasma was obtained from vaginal swabs of non pregnant she camels.

Mycoplasma arginini was isolated from the vagina of non pregnant she camels, as well as from the preputial swabs of male camels.

AL-ZEFTAWI, et al. (1981) in Egypt identified M. arginini from cows and ewes suffering from granular vulvovaginitis, while AHMED, et al. (1981) recorded M. arginini from ewes with endometritis problems.

Acholeplasma laidlawii was also isolated from vagina of both pregnant and non pregnant she camels, foetal and preputial swabs. These results were supported by SABRY and AHMED (1986 II) who isolated A. laidlawii from vagina of apparently healthy she camel.

On the international board, no reports about the isolation of Acholeplasma from camels except that of AL-AUBIDI, et al. (1978) in Iraq who isolated Acholeplasma oculi from the nasal swabs only.

Therefore, this study recorded for the first time in Egypt the isolation of the M. arginini from the genital tract of both male and female she camel, as well as the isolation of Acholeplasma laidlawii from the prepuce of male camels.

Further investigations are needed to explain the role which may be played by the male camel in the transmission of the above mentioned organisms during coitus, and the reproductive disorders which may be produced by such organisms.

REFERENCES

- Ahmed, A.A. (1974): Primary isolation and characterization of mycoplasmas from female genital organs of farm animals. M.V.Sc. Thesis Fac. Vet. Med. Cairo University.
- Ahmed, A.A.; Al-Zeftawi, N.M. and Sabry, M.Z. (1981): Genital Mycoplasmas of cows and ewes in Egypt. J. Egypt Vet. Med. Assoc., 41, 67-78.
- Al-Aubaidi, J.M.; H. Erno and J. Al-Shammary (1978): Recovery and identification of Acholeplasma Oculi from camels. Zbl. Bakl. Hyg., I. Abst. Org. A., 241, 260-261.
- Al-Zeftawi, N.M. (1973): Some studies of mycoplasmas associated with pneumonia in farm animals in A.R.E. M.V.Sc. Thesis, Fac. Vet. Med., Cairo university.
- Al-Zeftawi, N.M.; Ahmed, A.A. and Sabry, M.Z. (1981): Isolation of M. arginini from granular-vulvo vaginitis (G.V.V.) in cattle and sheep. J. Egypt. Vet. Med. Assoc., 41, 91-97.
- Clyde, W.A.Jr. (1983): Growth inhibition tests. pp. 405-410. In Tully G.I. and S. Razin (1983) "Methods in Mycoplasmaology", Vol. I, Academic Press, N.Y.
- Erno, H. and Stipkovits, L. (1973): Bovine mycoplasmas: II. Acta Vet. Scand. 14, 450-463.
- Erno, H. and Peterslund, K. (1983): Growth-precipitation test. pp. 489-492. In Tully G.I. and S. Razin (1983) "Methods in Mycoplasmaology", Vol. I, Academic Press, N.Y.
- Fayad, Sondos, A. and Sabry, M.Z. (1979): Acholeplasma species isolated from camels (Camelus dromedarius) in Egypt. First Agriculture Research Center Congress, 22-28 May 1979, Giza, Egypt.

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- Freundt, E.A. (1985): Host parasite relationships of mycoplasmas. pp. 58-87. In Glystzoff I. (1985) "Infektionen durch Mycoplasmatales". Ferdinand Inke Verlag Stuttgart.
- Freundt, E.A.; Andrews, B.E.; Erno, H.; Kunze, M. and Black, F.T. (1973): The sensitivity of Mycoplasmatales to sodium Polyanethol sulfonate and digitonin. Zbl. Bakt. Hyg. I. Abt. orig. A., 225, 104-112.
- Gad, A.S. (1975): Primary isolation and characterization of mycoplasmas from male genital organs of farm animals. M.V.Sc. Thesis, Fac. Vet. Med., Cairo University.
- Sabry, M.Z. (1968): Characterization and classification of avian mycoplasma. Ph.D. Thesis, Fac. Graduate School, Cornell University, pp. 244.
- Sabry, M.Z. and Ahmed, A.A. (1975): Evaluation of media and cultural procedures for the primary isolation of mycoplasmas from female genitalia of farm animals. J. Egypt. Vet. Med. Assoc., 33, 18-34.
- Sabry, M.Z. and Ahmed, A.A. (1986): Studies on mycoplasmas of camels in Egypt: I. Primary Isolation of Mycoplasmas from one humped camels (*Camelus Dromedorius*). II. Characterization and identification of camel Mycoplasmas. J. Egypt. Vet. Med. Ass., 46, No. 3, 251-281.
- Sabry, M.Z.; Ahmed, A.A.; Gad, A.S. and Al-Zeftawi, N.M. (1976): Isolation of mycoplasmas from camels in Egypt. Proc. 13th Arab Vet. Congr., Cairo, Egypt. pp. 185-194.