

## Communication

***Pasteurella haemolytica* A2 infection in two sheep flocks in Tripoli area (Libya)**A.M. Moustafa<sup>1</sup>

MOUSTAFA (A.M.). Infection à *Pasteurella haemolytica* A2 dans deux troupeaux de moutons de la région de Tripoli (Libye). *Revue Elev. Méd. vét. Pays trop.*, 1994, 47 (3) : 289-290

Trois cent trente moutons provenant de deux troupeaux différents ont été examinés pour des manifestations respiratoires comportant un écoulement nasal séreux à mucopurulent, de la dyspnée, de la toux et un état général légèrement affecté. Cinquante-cinq animaux (16,6 p. 100) ont été malades, et 13 (3,9 p. 100) sont morts. Des prélèvements ont été effectués sur les cadavres, les malades et les animaux encore en bonne santé. *Pasteurella haemolytica* A2 a été identifiée sur 18 isolats. Le sérotype a été effectué par la méthode d'agglutination rapide sur plaque (RPA). La réponse aux antibiotiques a été testée et le traitement institué au vu des résultats.

*Mots clés* : Ovin - Septicémie hémorragique - *Pasteurella haemolytica* - Libye.

**Introduction**

The aim of the present note is to determine the causative agent of infection in two separate sheep flocks raised in two different areas of the suburb of Tripoli.

**Materials and methods****Prevalence and symptoms**

330 animals of local breed (Barki) were examined: 150 sheep at Ain Zara, in an open yard; animals were grazing in a sandy area. The second flocks at wadi Al-Rabeeh included 180 animals aged from one month to two years. They were raised in a windy desert yard, fenced with wire. Their condition is described in table I.

Affected sheep showed respiratory manifestations including bilateral mucopurulent nasal discharge, dyspnoea, depression, cough, anorexia and slight frothing at the sides of mouth. Kids showed nasal discharge, cough and were barely able to move, when they did walk, they had an odd stilt-like gait. Post-mortem examination showed a mucous discharge from the nostrils, congestion of the trachea and lungs with fibrinous deposition and blood clots on incision in the lung tissue. Pneumonia developed in both flocks as early as one month old, but usually at 2-3 months of age and it is more frequently observed in sheep less than one year old. In the first flock, morbidity and mortality rates were 13 and 3.3 %, while in the second flock, they were 19.4 and 4.4 %, respectively.

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TABLEAU I Frequency of isolated *Pasteurella haemolytica* strains from diseased and dead sheep.

Flocks	Condition			Tissues and samples taken	Number of isolates
	Healthy	Disease	Dead		
No. 1 (150 sheep)	125 (83,3 %)	20 (13,3 %)	5 (3,3 %)	Nasal swabs Trachea Lungs	1 1 5
No. 2 (180 sheep)	137 (16.1 %)	35 (19.4 %)	8 (4.4 %)	Nasal swabs Trachea Lungs Blood swabs	1 2 8 -
Total 330	262 (79.3 %)	55 (16.6 %)	13 (3.9 %)		

Nasal swabs were sampled taken from live animals. Parts of lungs, trachea and blood swabs were taken from dead animals or at agony state for bacteriology.

**Necropsy**

There was a mucous discharge from the nostrils, congestion of the trachea and lungs with fibrinous deposition and blood clots on incision in the lung tissue. Pneumonia developed in both flocks as early as one month old, but usually at 2-3 months of age and it is more frequently observed in sheep less than one year.

**Laboratory examination - Serotyping**

Swabs were streaked onto 5 % sheep blood agar plates and incubated overnight at 37°C. Plates were then examined for pasteurella-like colonies. Germs were reisolated on blood agar and examined by morphology and hemolysis after growth on McConkey's plate and, then tested for Gram-staining, biochemical and sugar fermentations as shown in table II. Parts of lungs, trachea, and blood swabs were streaked on blood agar plates together with brain and heart infusion as previously described. Isolated strains of *P. haemolytica* were serotyped by rapid plate agglutination (RPA) procedure according to FRANK and WESSMAN (6).

Typing antisera were kindly supplied by Dr Glynn H. Frank (USDA, Ames, Iowa).

Drug susceptibility was carried out on the 18 isolated strains to detect the antibiotic of choice in controlling this disease. The paper discs used (BBL sensidisc, Becton Dickenson & Co., Cockeysville, MD) contained gentamycin (10 mcg), chloramphenicol (30 mcg), cephalothin (10 mcg), kanamycin (10 mcg), penicillin (10 units), lincomycin (2 mcg), oxytetracycline (30 mcg), cloxacillin (1 mcg) and triplesulfas (30 mcg).

## Results

Eighteen isolates of *Pasteurella haemolytica* were Gram-negative, cocco-bacilli, bipolar and showed growth of narrow zone of  $\beta$ -hemolysis on 5 % blood agar, grows on McConckey's media after 72 h at 37°C. Biochemical and sugar fermentations of the isolated strains are shown in table II and these findings agreed with of CARTER (4). All 18 isolates were *P. haemolytica* A2 (9).

## Chemotherapy

As results of the drug susceptibility test, Pan Terramycin® (Pfizer) intramuscular injection at a dose of 1 ml/10 kg body weight (bwt) and Trivetrim® injection (BP Wellcome) at a dose of 1 ml/16 kg bwt were given for 3 or 5 days to adults, while Selepherol® injection (Vetoquinol SA) at a dose of 1 ml/10 kg bwt was given in addition to kids as stimulant.

## Discussion and conclusion

In Libya, septicemic haemorrhagia (pasteurellosis) possibly is the causative agent for 17 % of morbidity and 4 % casualties among sheep raised in the open. The disease is more severe among lambs than adults. A flock outbreak starts suddenly with a sheep dying or acutely ill with respiratory disease. Other sheep in the flock show less severe signs such as coughing and mild oculo-nasal discharge. The disease is often systemic in lambs aged of more than of 2 months and it is pneumonic in adult sheep. In Libya, there are no statistical figures about the incidence of infection with ovine pneumonic pasteurellosis.

**TABLEAU II** Biochemical characteristics and sugar fermentations of 18 isolated *Pasteurella haemolytica* strains.

Criteria	<i>Pasteurella haemolytica</i>
Indole	-
Urease	-
Oxidase	+
Fermentation:	
Glucose	A
Lactose	A
Sucrose	A
L-arabinose	+
D-xylose	+
Trehalose	-
Salicin	-

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- 330 sheep from two different flocks were examined for respiratory manifestations including serous to mucopurulent nasal discharge dyspnoea, cough and light depression. 55 animals were sick (16.6 %) and 13 died (3.9 %). Samples were taken from healthy, diseased and dead cases as well. *Pasteurella haemolytica* A2 was identified from 18 isolates, and serotyped by rapid plate agglutination (RPA). Drug susceptibility was tested and treatment applied in line with the results.
- Key words** : Sheep - Haemorrhagic septicemia - *Pasteurella haemolytica* - Libya.