Pertanika 7(3), 121–122 (1984)

COMMUNICATION I

Isolation of *Corynebacterium Suis* from Boars in Selangor, Malaysia

RINGKASAN

Satu banci awal untuk prevalen Corynebacterium suis telah di jalankan ke atas dua ladang babi di Selangor. Swab prepius telah dititiskan ke atas agar darah Neomycin dan daripada ciri-ciri rupa bentuk koloni serta reaksi negatif dalam kebanyakan ujian biokimia, Corynebacterium suis *telah di kenalpasti. Empat daripada 24 swab prepius ternakan babi yang diperiksa didapati mengandungi* Corynebacterium suis.

SUMMARY

A preliminary survey for prevalence of Corynebacterium suis *infection in boars was conducted on two pig farms in Selangor. Preputial swabs were streaked onto Neomycin blood agar plates and from the characteristic morphology of the colonies and inactive reactions on most of the diagnostic media,* Corynebacterium suis *was identified. Four of the 24 preputial swabs from the two farms were positive for* Corynebacterium suis.

INTRODUCTION

Cases of cystitis and pyelonephritis in pigs have been reported in increasing numbers overseas (Pijoan *et al.*, 1983), (Soltys and Spratling, 1957). The disease is prevalent in sows whilst boars may carry the causal organism in the preputial diverticulum without any ill-health. The disease can be a serious economic problem in individual herds as affected sows often lose weight, become emaciated and die. The causal organism, *Corynebacterium suis* was first described by Soltys and Spratling (1957) and since then the disease has been reported in pigs from many countries including Canada (Percy *et al.*, 1966), Germany (Jones *et al.*, 1982), U.S.A. (Pijoan *et al.*, 1983). This communication describes the isolation of *Corynebacterium suis* from boars on two farms in Selangor, Malaysia.

MATERIALS AND METHODS

Sterile swabs were introduced into the preputial sac of 24 boars on two farms in Selangor and taken directly to the laboratory without the use of a transport medium. The swabs were streaked immediately onto Neomycin blood agar (Dagnall and Jones, 1982). The plates were incubated at 37° in an anaerobic environment for at least three days and examined for the characteristic colonies of *Corynebacterium suis.* Discrete colonies were then inoculated into specific media for biochemical tests.

RESULTS AND DISCUSSION

Swabs from the preputial sac often contain several types of bacteria and Neomycin was included in the blood agar to inhibit these bacteria. Growth of *Corynebacterium suis* is often enhanced on Neomycin blood agar and its colonies can then be easily identified (Dagnall and Jones, 1982). The colonies after three days of incubation were large, flat, opaque, of matt appearance and with slightly raised centres. Gram stained smears made from the colonies revealed small, gram . positive, pleomorphic organisms. The organism is rather inactive when subjected to biochemical tests (Table 1); however, it rapidly hydrolysed, urea. Our strain apparently did not produce acid from maltose as indicated by other workers (Soltys, 1961). We believe this is the first isolation of *Corynebacterium suis* from pigs in Malaysia. *Corynebacterium suis* could have been in Malaysia for a long time and being an anaerobe, it is often overlooked in routine diagnostic work in many laboratories. It is speculated that as in many other countries, the prevalence of *Corynebacterium suis* in male pigs in Malaysia could be high. This isolation indicates the need to examine the prevalence of *Corynebacterium suis* infection in boars in Malaysia and to watch for signs of hematuria in sows, especially those that have been recently mated as these could be cases of *Corynebacterium suis* infection.

TABLE 1
Biochemical reactions produced by the *Corynebacterium suis* isolates

Biochemical Tests	Results
Urease	+
Catalase	–
Oxidase	–
Blood agar – hemolysis	–
Nitrate	–
Citrate	–
Gelatin	–
Methyl Red	–
Voges – Proskauer	–
Oxidation – Fermentation	–
SIM medium – Hydrogen Sulphide	–
Indole	–
Motility	–
Carboyhdrate fermentation	
Glucose	–
Lactose	–
Maltose	–
Salicin	–
Mannitol	–

A. R. Bahaman
J. Y.S. Lee
H. L. Too
J. E. T. Jones*

Faculty of Veterinary Medicine and Animal Science,
Universiti Pertanian Malaysia,
Serdang, Selangor, Malaysia.

* *Royal Veterinary College,*
Potters Bar, Herfordshire,
United Kingdom.

REFERENCES

DAGNALL, G.J.R. and JONES, J.E.T. (1982) : A selective medium for the isolation of *Corynebacterium suis. Res. Vet., Sci.,* **32** : 389-390.

JONES, J.E.T., FARRIES, E. and SMIDT, D. (1982) : Prevalence of *Corynebacterium suis* in wild boars and domestic pigs in the Federal Republic of Germany. *Dtsch. Tieraerztl wochenschr.* **89** : 110-112.

PERCY, D.H., RUHNKE, H.L. and SOLTYS, M.A. (1966) : A case of infectious cystitis and pyelonephritis of swine caused by *Corynebacterium suis. Can. Vet. J.* 7 : 291-292.

PIJOAN, C., LASTRA, A. and LEMAN, A. (1983) : Isolation of *Corynebacterium suis* from the prepuce of boars. *J. Amer. Vet. Med. Assoc.* **183** : 428-429.

SOLTYS, M.A. (1961) : *Corynebacterium suis* associated with a specific cystitis and pyelonephritis in pigs. *J. Path. Bact.* **81** : 441-446.

SOLTYS, M.A. and SPRATLING, F.R. 1957) : Infectious cystitis and pyelonephritis of pigs: a preliminary communication. *Vet. Rec.* **69** : 500-504.

(Received 7 June, 1984)