

A NOTE ON MIMEA INFECTIONS IN CAPE TOWN

M. H. FINLAYSON AND BARBARA ROBINSON, *Cape Town*

In 1926 De Bord described micro-organisms that morphologically resembled gonococci or meningococci but differed from these organisms in their cultural and biochemical features. They were isolated from cases of conjunctivitis, vaginitis and meningitis. De Bord included these organisms in a new tribe, *Mimea*, which was recognized as such in the 6th edition of *Bergey's Manual of Determinative Bacteriology*,¹ where they were listed as 'Appendix, Family Parvobacteriaceae.'

Since De Bord's original description many workers have reported the presence of mimea in infected material. Thus Sampson *et al.*² isolated these organisms in pure cultures from the urine of 22 patients, 18 of whom showed symptoms, and pus from 6 patients, blood from 17 patients, cerebrospinal fluid from 3 patients, urethral secretions from 3 men, and synovial fluid from 1 patient.

In view of the widespread prevalence of these organisms an obvious problem arises when a diagnosis of gonorrhoea is made from examination of a smear. Should the organisms present be mimea, quite different epidemiological and sociological implications might be involved.

Table I, from Sokoloff and Goldstein,³ illustrates the cultural differences of the neisseriae and mimeae. In addition organisms of the tribe mimea are almost invariably penicillin-resistant and the finding of neisseriae that are penicillin-resistant should immediately suggest the possibility that we are actually dealing with a mimea.

Recently we have isolated *M. polymorpha* from 2 specimens of recurrent vaginal discharge. One specimen was from a girl of 15, the other from a young married woman of 28. The first specimen gave a pure growth of mimea whereas the second gave a mixed growth of mimea

and *E. coli*. Sensitivity tests showed that both cultures had a high resistance to penicillin.

TABLE I. DIFFERENTIATION OF SPECIES OF NEISSERIAE AND MIMAEA

Organisms	Oxidase	EMB* plates	Fermentation		
			Glucose	Maltose	Sucrose
<i>N. gonorrhoeae</i>	+	—	+	—	—
<i>N. catarrhalis</i> ..	+	—	—	—	—
<i>N. sicca</i>	+	—	+	+	+
<i>N. flava</i>	+	—	+	+	—
<i>M. polymorpha</i>	—	+	—	—	—
<i>M. polymorpha</i> var. oxidans ..	+	+	—	—	—
<i>M. herellea</i> ..	—	+	+	—	—
<i>M. colloides</i> ..	—	+	+	+	+

Positive oxidase reaction, growth on EMB* plate, acid reaction on carbohydrate = +; and negative oxidase test, no growth on EMB* plate, no reaction on carbohydrate fermentation = —.

*Eosin and methylene blue.

Discussion

In one of the two cases in which polymorpha was isolated from a specimen of vaginal discharge the patient was a young girl. The sociological implications if a diagnosis of gonococcal infection had been made in this case might have been devastating.

The importance of cultural and biochemical characters in the diagnosis of neisserian infection of the genito-urinary tract cannot be over-emphasized. Unless these characters are investigated, any organisms observed in

stained smears can only be described as 'morphologically resembling neisseriae', for mimeae may be found both extra- and intracellularly.

From Table I it will be seen that all four species of neisseriae gave positive oxidase reactions but failed to grow on EMB (eosin and methylene blue) plates. Only one of the species of mimea, however, gave a positive oxidase reaction, but all grew on EMB plates. It is therefore advisable to include culture on EMB plates as a routine procedure in the identification of neisseria-like organisms grown from specimens from a genito-urinary tract.

Opsomming

Mimea polymorpha is uit 2 monsters van vaginale af-skeiding afgesonder. Die belangrikheid hiervan lê in die feit dat dit nie van die gonokokkus of meningokokkus op gekleurde smere uitgeken kan word nie. Om hierdie rede is kweeksel-ondersoeke van die grootste belang wanneer neisseriese infeksies van gekleurde preparate gediagnoseer is, veral in die gevalle waar die infeksie teen penisillien weerstand bied, want dit is 'n eienskap van mimeae. Klem word op die sosiologiese en epidemiologiese implikasies van 'n verkeerde diagnose gelê.

REFERENCES

1. Breed, R. S. *et al.* (1948): *Bergey's Manual of Determinative Bacteriology*, 6th ed. Baltimore: Williams and Wilkins.
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3. Sokoloff, B. and Goldstein, H. (1963): *J. Amer. Med. Assoc.*, **184**, 197.