

# Pharyngeal Exudates: Mere Mantle or Menace?

by Dr. P. S. Nathan

M.B.B.S.(S'PORE), D. DERM(LOND.),  
M.R.C.P.(U.K.) M.R.C.G.P.(U.K.)  
Physician,  
Kuala Lumpur,  
Malaysia.  
Hon. Consultant, Dermatologist,  
Assunta Hospital,  
Malaysia.

and Dr. M. Jagathesan

M.B., B.S.(S'PORE), M.R.C.Path.(ENG.),  
F.C.A.P., A.M.  
Malaysia Senior Bacteriologist,  
Institute for Medical Research,  
Kuala Lumpur,  
Malaysia.

FOR LONG General Practitioners have held the belief that exudates on the tonsils or other areas of the Pharynx in an acute sore throat were bacterial in origin and that they therefore needed energetic antibiotic treatment. Of recent times many papers have come out proclaiming the paucity of bacterial involvement in acute pharyngitidies (that they are largely viral in origin) but no mention was made of the significance of *exudates* in these situations. Besides, we know of no literature on this subject in the Malaysian Journals.

The purpose of this study was to look into these exudates bacteriologically and see if indeed the General Practitioners' assumption was justified and if not to what extent. In other words we felt there was a need for a study which would enable a General Practitioner to look into an acute sore throat, see an exudate(s) and predict with reasonable confidence the odds on it (them) being of bacterial origin.

We also felt that as a spin off, we would be able to obtain some insight into the degree of streptococcal (Haemolyticus) involvement in these situations which would not only add another dimension to our study but also alert the Clinician to instant and total action to rid this menace. In addition, one of us attempted to describe the exudates in detail (white, yellow or Yellowish white) in the hope that perhaps some useful data might evolve from this exercise.

## Materials & Methods

This study was carried out at a General Practice set up having a clientele of all social strata, being

situated between a middle class (Home owning) housing Estate and a slum, and lying just within Municipal limits of the capital city of Kuala Lumpur.

All cases presenting with acute respiratory tract symptoms were examined for Pharyngeal exudates, *however small*. Their colour noted, and a swab taken and sent to the Institute for Medical Research for inoculation, culture and identification. All age groups were involved and only cases which had had previous treatment were excluded for fear of culture negative reports making eventual analysis arbitrary.

A total of 51 cases were studied but as no growth was obtained from one of them, this was excluded as due to collection and/or transportation error.

Table I

Total Cultures = 50
Streptococcus Haemolyticus = 21
Staphylococcus Aureus = 4
Staph & Strept = 8
Diphtheria = 2
Pneumococcus = 2
No Pathogens isolated = 13

As the significance of the isolation of Staph aureus and Pneumococcus from throats in terms of pathogenicity is disputed, we are left with a total of 31 Pathogenic isolates (62%).

This is obviously the reverse of bacterial involvement in acute Upper Respiratory Tract Infections as a whole (where viruses are claimed to dominate), and hence significant. The 13 cases

(26%) which grew no Pathogens would largely be due to viruses. Vincent's Angina is a remote possibility.

**Table II**

Total Cultures = 50  
Strept Haemolyticus = 29 (58%)

58% is without doubt a frightening figure in view of the possible serious sequelae of Streptococcal sorethroats.

**Table III**

Total Studied = 50  
White Exudates = 23  
Yellow or Yellowish white Exudates = 27

**Table IV**

White Exudates = 23 of which  
Strept Haemolyticus = 8  
Staph Aureus = 3  
Staph & Strept = 3  
Diphtheria = 2  
Pneumococcus = 1  
No Pathogens isolated = 6  
Strept Haemolyticus involvement in  
white exudates = 11/17 (48%).

**Table V**

Yellow or Yellowish white exudates = 27  
Strept Haemolyticus = 13  
Staph Aureus = 1  
Staph & Strept = 5  
Pneumococcus = 1  
No Pathogens = 7

Thus strept Haemolyticus involvement in yellow exudates = 18/27 (66.7%).

## Discussion

Table I shows that out of a total of 50 throat swabs there were 31 (62%) Pathogenic Bacterial Isolates. This is, of course, not taking into account the other isolates (Staph Aureus and Pneumococcus) whose pathogenicity in acute sorethroats is disputed. If these were included the total bacterial isolates would be 74%. These figures by themselves are meaningful but when one considers them against the background of *all* acute sorethroats where about 50-70% are of viral aetiology, then they become even more so and give strong support to the age old belief of the General Practitioner that acute exudative pharyngitis is bacterial until proved otherwise.

A look at Table II shows that no less than 58% of these swabs contained Strept Haemolyticus. This indeed is an alarming figure, though representative of only 50 cases, and warrants further studies from other observers on a larger scale. Meanwhile it will be a brave doctor who withholds immediate and total (i.e. a 10 day course) treatment from an exudative Pharynx, in the absence of culture studies.

Tables IV and V reveal interesting data in that yellow or Yellowish exudates seem to give a much higher yield (66.7%) of Strept Haemolyticus than white exudates (48%). This wide differential in Streptococcal involvement purely on the basis of the colour of the exudates is illuminating and will only remain a viable concept if it is observed on a much larger number of swabs; otherwise it may well peter away into one more of the many moot issues within the medical profession.

## Conclusion:

50 cases of acute untreated exudative Pharyngitis were studied in a General Practice situation. Of these 62% proved to be of undisputed pathogenic bacterial aetiology with strept Haemolyticus contributing a menacing 58%. Yellow or Yellowish white exudates gave a much higher yield (66.7%) of Strept Haemolyticus than white exudates (48%). Antibiotic exposure would thus seem justified if only while awaiting culture and more extensive studies.

## Acknowledgements

We wish to thank Miss C. Kamala Devi for her painstaking clerical efforts in accumulating and tabulating all the above data. Our thanks is also due to Miss N. Vasantha Devi for her patient secretarial contribution.

## References

- (1) Joan Stokes Clinical Bacteriology 3rd edition 1968.
- (2) Medical Microbiology. A guide to the Laboratory Diagnosis and Control of Infections. 12th edition Vol I Microbial Infections. Cruikshank R, Duguid JP., Marmion B.P., and Swain RHA. (1923).
- (3) Jama 1964 190: 699 - 708.
- (4) Clinical Pediatrics (Phil) 10: 100 - 203. 1971.
- (5) Journal of Laboratory & Clinical Medicine 1959. 54: 151 - 154.
- (6) Paediatric Clinics of North America 1971. 18: 125 - 143.
- (7) Medical Journal of Australia. June 16 1973. 1207 Vol I No. 24.
- (8) Medical Journal of Australia. January 6 1973. Page 20 Vol 60 No 1.
- (9) New England Journal of Medicine 1973 288: 797.