

SOME OBSERVATIONS ON THE USE OF A NEW TETRACYCLINE (LYMECTYCLINE)* IN GENERAL PRACTICE AND HOSPITAL

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THE TETRACYCLINES ARE DRUGS OF proven value in the treatment of many bacterial infections. Side-effects are not uncommon, particularly gastro-intestinal disorders, skin rashes and local irritation if injected. There has, therefore, been a search for tetracycline derivatives which overcome these disturbances whilst retaining their potency and general lack of toxicity. Such a derivative is demethyl-chlortetracycline (ledermycin), which is used in a lower dosage. However, it too is not free from side-effects, including such disturbances as light sensitization (Morris, 1960).

The tetracycline used in this trial was a tetracycline-aminoacid combination (lymecycline), which has the great virtue of extreme solubility (2.5 G. in 1 ml. of water, which is 5,000 times more soluble than tetracycline base. Its intestinal absorption is greater than other tetracyclines and satisfactory blood, biliary, cerebrospinal fluid and urinary levels have been obtained in man using doses which are generally lower than for other tetracyclines. Its *in vitro* antibacterial activity mirrors tetracycline hydrochloride considering the tetracycline content (De Carneri, 1961).

Reports of side-effects have been very low (Sabella and Di Luzio, 1961; Pisani and Estrafallaces, 1961; Pani, 1961).

In view of these favourable reports a simple assessment of the drug was made, both in general practice and in hospital. In view of the known results of treatment of the conditions we encountered both with other antibiotics and without any chemotherapeutic agents, we did not think it necessary or prudent to match our cases with controls. We relied on clinical observations, with or without laboratory and radiological assistance. In hospital seven patients were chosen at random on admission by the house physicians for inclusion in the trial over a period of about five weeks. One of us (S.E.J.) assessed these cases regularly, as well as the other ward cases, only knowing that they were receiving a tetracycline, but not knowing whether this was the one under trial or not, until the end of the trial.

In the general practice a total of 44 patients were treated, 26

*Lymecycline (Tetralysal) was supplied by Fraser Chemicals Ltd.

TABLE I

	<i>Acute bronchitis</i>	<i>Pneumonia</i>	<i>Otitis media</i>	<i>Tonsillitis</i>	<i>Sinusitis</i>	<i>Whooping-cough</i>	<i>Influenza</i>	<i>Acne pustulosa</i>	<i>Some dysentery</i>	<i>Total</i>
Cured	9	2	6	10	2	0	0	0	0	29
Improved	8	1	0	0	0	0	0	1	0	10
No change	1	0	0	0	0	1	2	0	1	5
Worse	0	0	0	0	0	0	0	0	0	0
Total	18	3	6	10	2	1	2	1	1	44

males, ages ranging from 7 to 85 years and 18 females whose ages ranged from 16 to 73. The dosage of lymecycline varied from 300 to 900 mg. per day and duration varied from three to eight days, the most common formula being 600 mg. (4 capsules) daily for four days. Out of the 44 patients only five showed no change, 29 being cured and 10 improved. The percentage (88.6 per cent) of successfully treated patients agrees closely with a figure obtained by Myers (1946) (see table I). It was to be expected that influenza and whooping cough would not respond to a tetracycline and the patient with

TABLE II
HOSPITAL PATIENTS

<i>Case</i>	<i>Age</i>	<i>Sex</i>	<i>Diagnosis</i>	<i>Sputum analysis</i>	<i>Dosage in mg.</i>	<i>Observations</i>
L.A. 1	58	F	Bronchiolitis	No pathogens	150 qds.	V. well one week later
J.D. 2	64	M	Pneumonitis with chronic bronchitis and emphysema	No pathogens	300 tds. for three days then 150 qds.	Recovery
N.E.L. 3	75	F	Ca. bronchus with 2-ary infection	<i>B. proteus</i> sens. to chloramphenicol	150 qds.	Deterioration and death 1/12 later from Ca
W.A.W. 4	58	M	Broncho-pneumonia	No pathogens	150 qds.—six days. Then chloramphenicol 500 tds for seven days. Then return to 150 qds.	No improvement Marked improvement Improvement maintained
S.A.W. 5	57	M	Acute exacerbation of chronic bronchitis	Pneumococci	300 tds.	Death from respiratory failure
F.C. 6	70	M	Ca. bronchus with 2-ary infection	No pathogens	150 qds.	No change
L.L.S. 7	57	F	Infected asthma	Coliforms	150 qds.	Recovery

Sonne dysentery (aged seven) still has not got clear stools bacteriologically at the time of writing this report, in spite of further courses of tetracycline, 1 G. per day for five days, and furazolidone.

The seven hospital patients in the trial were more seriously ill. Two had carcinoma of the bronchus with secondary infection, and one was a patient with severe respiratory failure following an acute respiratory tract infection superimposed on chronic bronchitis and emphysema. One patient with carcinoma of the bronchus and the patient with the respiratory failure died. From the nature of these two conditions it cannot be said that the antibiotic failed to cure or improve the patients since many other factors, apart from the infection, played a morbid part. Of the remaining four patients, three were treated very successfully, but the fourth did not improve until the lymecycline was changed to chloramphenicol (see table II).

Interestingly, though no side-effects were reported in the practice patients, a retrosternal burning sensation was commonly reported from the hospital patients. One practice patient not in the trial vomited with lymecycline.

Conclusion

Lymecycline (tetralysal) has proved to be a useful addition to the tetracycline range, remarkably free from side-effects and effective in lower dose than tetracycline itself. A favourable response to treatment was obtained in 88.6 per cent of general practitioner cases, and of four (out of seven) hospital patients for which adequate comparisons can be made three responded very well. The numbers of patients in hospital in the trial, however, are too small for adequate appraisal.

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