

THE ROLE OF CLARITHROMYCIN (KLARACID) IN THE TREATMENT OF COMMUNITY ACQUIRED CHEST INFECTION

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SUMMARY

Chest infections are common and can be potentially serious if not treated in time. The development of infection are normally prevented by pulmonary defence mechanism. Major pathogens associated with community acquired chest infections include streptococcus pneumoniae, hemophilus influenzae and mycoplasma pneumoniae. Standard treatment is with penicillin derivative or erythromycin. Clarithromycin is a new macrolide antibiotic with extended activity against many of the pathogens associated with chest infection. Addition of new antibiotics is always welcome because of the emergence of resistant strains.

INTRODUCTION

Clarithromycin is one of the new generation of macrolides. It is the 6-methoxy derivative of erythromycin. This modification makes clarithromycin 100 times more acid stable than erythromycin.

The primary maetabolite of clarithromycin is the 14-hydroxy epimer. Both the parent compound and its metabolite have antibiotic activity. Clarithromycin is excreted by liver and has good tissue penetration¹ in lung, nasal mucosa and tonsils.

This study was carried out to see the effect of clarithromycin in chest infection. Sputum culture and sensitivity were done prior to commencement of treatment with Clarithromycin.

MATERIAL AND METHODS

Twelve subjects participated in the study, which was carried out in Medical "C" unit, Postgraduate Medical Institute, Lady Reading Hospital, Peshawar, and approved by the Hospital

ethical committee. Three of the patients had chronic airway obstruction and the rest had been healthy previously. After history and examination, routine investigations and chest x-ray were carried out. Sputum culture and sensitivity were done on all patients along with gram staining.

RESULTS

After 24 hours sputum incubation, streptococcus pneumoniae were grown in seven out of twelve patients. One patient grew pseudomonas while normal commensals were grown from the rest of patients (Table-1). Sensitivity to antibiotics was obtained after further 24 hours incubation, (Table-2). It was surprising that all the streptococcus pneumoniae were found to be sensitive to Clarithromycin in addition to penicillin group, but they were all resistant to septran, some were partially sensitive to erythromycin.

Table - 1

DAMOGRAPHIC DETAIL ALONG WITH ORGANISM GROWN FROM SPUTUM AFTER 24 HOURS INCUBATION

S.No.	Name	Age	Sex	Organism Grown from Sputum
1.	SR	38	M	Strep. Pneumoniae
2.	MS	40	M	Strep. Pneumoniae
3.	BM	27	F	Strep. Pneumoniae
4.	UF	50	M	Strep. Pneumoniae
5.	DG	20	F	Strep. Pneumoniae
6.	AM	25	F	Strep. Pneumoniae
7.	SQ	45	F	Strep. Pneumoniae
8.	DG	48	M	Normal Commensel
9.	MG	25	F	Normal Commensel
10.	JK	59	M	Normal Commensel
11.	GB	35	F	Normal Commensel
12.	HT	60	M	Pseudomonal Aerogenosa

Table-2

SENSITIVITY OF THE ORGANISM TO COMMONLY USED ANTIBIOTICS

S.No.	Patient	Sputum Growth	Amoxil	Penbritin	Septran	Velosef	Erythrocin	Klaracid
1.	SR	Strep.pn	S	S	R	S	PS	S
2.	MS	Strep.pn	S	S	R	PS	S	S
3.	BM	Strep.pn	S	S	R	PS	S	S
4.	UF	Strep.pn	S	S	R	S	PS	S
5.	DG	Strep.pn	S	S	R	PS	S	S
6.	DM	Strep.pn	S	S	R	PS	S	S
7.	SQ	Strep.pn	S	S	R	R	PS	S

S: Sensitive;

R: Resistant;

PS: Partially Sensitive;

Strep.pn: Streptococcal Pneumoniae.

Amoxil: Amoxycillin;

Penbritin: Ampicillin;

Septran: Co-trimoxazol Trimethorin;

Velosef: Cephadrin;

Klaracid: Clarithromycin;

DISCUSSION

Streptococcus pneumoniae is the commonest organism² associated with community acquired chest infection. This is common in previously healthy adults³ and is associated with a short history and high grade fever. The next common pathogen is *hemophilus influenzae*⁴ associated with acute on chronic bronchitis. *Mycoplasma pneumoniae*⁵ presents in epidemic form and is particularly common in young adults. *Legionella pneumophila*.⁶ *Bronthenella catarrhalis*⁷ and *chlamydia* are other organisms causing respiratory tract infections. Resistance to antibiotic is increasing, because of various factors.⁸ one of the major causes in our country being the counter sale of antibiotics. Also antibiotics are prescribed in inadequate doses for insufficient duration. Therefore, introduction of newer antibiotic is always welcome. Clarithromycin being a new macrolide seems promising as it is active against the common pathogens.

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