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Antibiogram for Antimicrobial Stewardship Pathology Department Mayo Hospital, Lahore.

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How to use this Antibigram?

This is data collection of antibiotic susceptibility pattern of isolates from clinical specimens submitted at Microbiology department of Central Diagnostic Laboratory, Mayo Hospital Lahore.

This data will help clinicians in choosing empirical treatment against suspected organisms. However, the antibiotic should be adjusted as soon as the original culture sensitivity report becomes available.

The numbers in boxes show percentage of sensitivity of the organism against that antimicrobial.

Staphylococcus aureus

Specimen	E	CD	VA	LZD	FD	COT	FOX	GEN
Pus	13	26	100	100	46	50	100	13
Wound swab	6	24	100	100	35	57	100	5
Blood	18	73	100	100	53	14	100	4
Fluid	0	0	100	100	34	19	100	23

***Staphylococcus aureus* (MRSA)**

Specimen	E	CD	VA	LZD	FD	COT	FOX	GEN	DO
Pus	14	23	100	100	35	13	0	16	6
Wound swab	9	22	100	100	30	21	0	6	7
Tissue	20	30	100	100	75	20	0	0	4
Blood	13	34	100	100	2	28	0	19	2

Intrinsic Resistance: Aztreonam, Polymyxin B/Colistin and Nalidixic Acid.

Isolates resistant to Cefoxitin are MRSA i.e resistant to other beta lactam agents penicillins, cephalosporins, beta lactam/beta lactamase inhibitor combinations ,aztreonam and carbapenems.

Streptococcus pneumoniae

Specimen	CTR	AMP	LZD	VA	E	COT	DO	CTX
Swab	100	100	100	100	33	66	50	100
Pus	100	100	100	100	40	42	72	100

Streptococcus pyogenes

Specimen	CTR	AMP	LZD	CD	E	VA	TE	CTX	CPM
Wound swab	100	100	100	52	58	100	75	82	69

Enterococcus spp.

Specimen	IPM	AMP	AK	F	MRP	VA	FOS	LZ	TE	CIP	CN-120	CN
Urine	66	4	4	30	45	80	16	73	4			12
Swab	100	50			50	100		100			50	
Blood		50	25			100		100	25	25	25	

Intrinsic resistance: Cephalosporins, Clindamycin, Trimethoprim, Trimethoprim/Sulphamethoxazole, Foscarnic Acid, Aztreonam, Polymyxin B/Colistin.

Salmonella spp.

Specimen	CTR	COT	IPM	TE	AZM	CIP	CN	MRP	AMP	CFM
Blood	66	40	100	33	100	45	67	100	18	33

For *Salmonella* spp, aminoglycosides, 1st and 2nd generation Cephalosporins and Cephamycins may appear effective in vitro but are not effective clinically.

Escherichia coli

Specimen	CTX	CTR	AM C	SC F	CIP	LE V	AK	IMP	MR P	TE	PT Z	F	NA	NO R	CO T	FOS	CN	CT
Pus	5	5	6	34	6	66	27	76	45	9	12						38	100
Wound Swab	2	2	4	5	12	10	23	62	48	13	6							100
Urine	0	0	0	34	34	52	23	76	93	8	26	56	3	10	8	79	59	100
Blood	10	10	10	16	7	22	6	62	45	10	14				6		30	100
Ascitic fluid	34	30	24	22	26	16	29	69	88	17	34				2		65	100
Sputum	25	25	20	44	27	45	32	67	69	78	10				4			100
BAL	0	0	0	59	20	20	6	36	20	0	12				40		40	100

Intrinsic Resistance: Clindamycin, Fusidic Acid, Glycopeptides (Vancomycin, Teicoplanin) Linezolid, Rifampin and Macrolides (Erythromycin, Clarithromycin and Azithromycin)

Citrobacter species

Specimen	CTX	CTR	AMC	CPM	CIP	LEV	AK	IPM	MRP	DO	CT
Pus	11	11	111	20	19	0	87	31	21	16	100
Wound Swab	0	0	0	0	25	0	34	52	69	26	100
Bronchial washings	9	9	12	0	52	38	50	50	50	11	100
Blood	0	0	0	50	33	33	100	66	66	34	100

Intrinsic Resistance: Ampicillin, Ampicillin-Sulbactam, Cefazolin, Cefuroxime, Clindamycin, Fusicidic Acid, Glycopeptides (Vancomycin, Teicoplanin), Linezolid, Rifampin and Macrolides (Erythromycin, Clarithromycin and Azithromycin)

Citrobacter may develop resistance during prolonged therapy with third generation cephalosporins. Therefore, isolates that are initially susceptible may become resistant within 3 to 4 days after initiation of therapy. Testing of repeat isolates may be warranted.

Klebsiella pneumoniae

Specimen	CTX	CTR	AMC	CPM	SCF	CIP	TE	AK	CN	IPM	MRP	PTZ	COT	NOR	NA	F	CT
Pus	7	7	0	10	10	10	35	40	21	30	32	6	2				100
Urine	0	0	0	0	0	17	61	61	41	64	68	0	23	21	25	20	100
Pus swab	3	18	25	4	86	22	23	72	13	33	66	5	8				100
Tracheal secretion	0	0	0	2	5	21	38	15	21	20	27	20	20				100
Fluid	15	10	10	8	9	11	6	11	21	30	44	8	27				100
BAL	34	25	0	6	0	5	29	14	29	76	66	34	33				100
Blood	0	0	0	78	0	0	12	0	0	55	65	0	34				100
Tissue	0	0	0	56	0	12	0	21	0	45	75	45	23				100
Sputum	0	0	0	12	23	17	11	67	9	33	25	0	17				100

Intrinsic Resistance: Ampicillin, Clindamycin, Fuscidic Acid, Glycopeptides (vancomycin, teicoplanin) Linezolid, Rifampin and Macrolides (erythromycin, clarithromycin and azithromycin)

Proteus species

Specimen	CTX	CTR	AMC	SCF	CIP	LE	AK	MRP	IPM	CPM	CN	PTZ	CAZ	COT
Wound Swab	19	19	19	46	32	11	23	55	37	32	21	10	6	8
Pus	12	10	15	93	23	18	10	30	24	24	11	6	23	34
Tissue	0	0	0	75	34	34	23	75	34	25	0	45	0	11

Intrinsic Resistance: Colistin/Polymyxin B, Ampicillin, Cefazolin, Cefuroxime, Tetracycline, Tigecycline, Nitrofurantoin, Clindamycin, Fusidic Acid, Glycopeptides (Vancomycin, Teicoplanin), Linezolid, Rifampin and Macrolides (Erythromycin, Clarithromycin and Azithromycin)

Acinetobacter baumannii

Specimen	CPM	AK	PTZ	CAZ	CIP	LEV	IMP	MEM	A/S	DO	CN	CT
Pus Swab	31	9	33	39	31	52	18	68	30	11	29	100
Fluids	62	42	47	18	19	9	19	21	21	34	12	100
Pus	31	24	27	13	17	11	25	42	9	23	14	100
Bronchial washing	17	14	20	16	10		34	17	29	23		100
ETT	0	0	0	12	15	25	38	25	12	0	13	100
Blood	30	18	23	16	27	50	33	57	35	0	43	100
Sputum	8	8	0	9	0	36	13	36	15	0	72	100
Tissue	34	0	0	17	0	34	54	34	0	0	23	100

Intrinsic Resistance: Ampicillin, Amoxicillin, Amoxicillin-Clavulanate, Aztreonam, Trimethoprim, Chloramphenicol, Fosfomycin, Benzylpenicillin, Cephalosporins 1st generation (Cephalothin, Cefazolin), Cephalosporins 2nd generation (Cefuroxime), Cephamycins (Cefoxitin,

Cefotetan) Clindamycin, Daptomycin, Foscarnic Acid, Glycopeptides (Vancomycin, Teicoplanin), Linezolid, Macrolides (Erythromycin, Azithromycin, Clarithromycin)

Pseudomonas species

Specimen	CPM	AK	PTZ	CAZ	CIP	ATM	IPM	MRP	CT
Wound swab	27	31	23	39	59	78	52	56	100
Pus	23	73	43	67	21	62	75	54	100
Sputum	20	73	22	56	33	46	61	64	100
Fluids	72	72	54	27	56	75	67	81	100
Bronchial washing	21	19	34	27	17	24	22	28	100

Intrinsic Resistance: Ampicillin, Amoxicillin, Ampicillin-sulbactam, Amoxicillin-Clavulanate, Cefotaxime, Ceftriaxone, Tigecycline/Tetracycline, Trimethoprim, Trimethoprim-Sulphamethoxazole, Chloramphenicol, Benzylpenicillin, Cephalosporins 1st generation (Cephalothin, Cefazolin), Cephalosporins 2nd generation (Cefuroxime), Cephamycins, (Cefoxitin Cefotetan), Clindamycin, Daptomycin, Foscarnic Acid, Glycopeptides (Vancomycin, Teicoplanin), Linezolid, Macrolides (Erythromycin, Azithromycin, Clarithromycin)

Pseudomonas aeruginosa may develop resistance during prolonged therapy with all antimicrobial agents. Therefore, isolates that are initially susceptible may become resistant within 3 to 4 days after initiation of therapy. Testing of repeat isolates may be warranted.

ABBREVIATIONS:

E:Erythromycin

DA/CD: Clindamycin

VA: Vancomycin

LZD: Linezolid

FD: Fuscidic Acid

TE: Tetracycline

FOX: Cefoxitin

CTR/CRO: Ceftriaxone

AMP: Ampicillin

SXT/COT: Co-trimoxazole

DO: Doxycycline

CTX: Cefotaxime

CPM: Cefepime

AMC: Amoxicillin+Clavulanic Acid

PTZ: Piperacillin+tazobactam

PB: Polymyxin B

CT: Colistin

ATM: Aztreonam

IPM/IMP: Imipenem

MRP: Meropenem

CAZ: Ceftazidime

CIP: Ciprofloxacin

LE: Levofloxacin

NOR: Norfloxacin

F: Nitrofurantoin

NA: Nalidixic Acid

A/S: Ampicillin+Sulbactam

SCF: Cefoperzone +sulbactam

AK: Amikacin

CN/GEN: Gentamycin

LE: Levofloxacin

AZM: Azithromycin

TGC: Tigecycline

TEC: Teicoplanin

