



MICROBIOLOGY NEWSLETTER



Department of Microbiology
University College of Medical Sciences & GTB Hospital, Delhi-95

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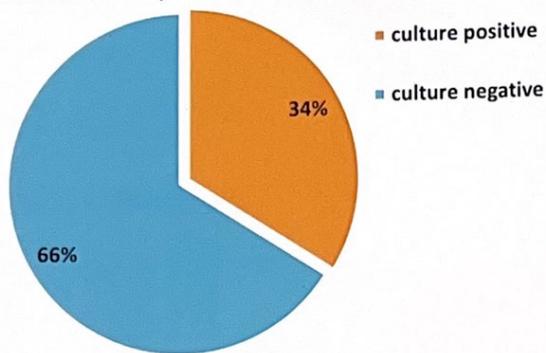


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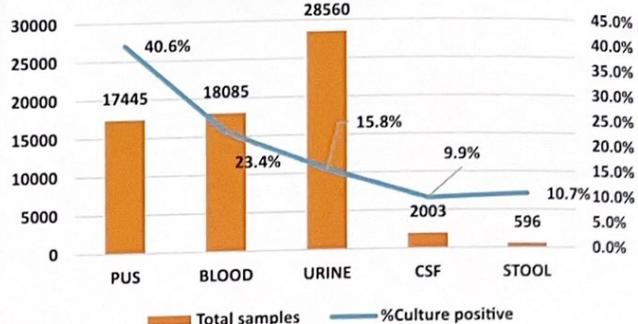
Antimicrobial susceptibility pattern (AST) of bacterial isolates from clinical samples from GTB Hospital (Year- 2023)

Bacterial isolates from clinical samples : GTB hospital

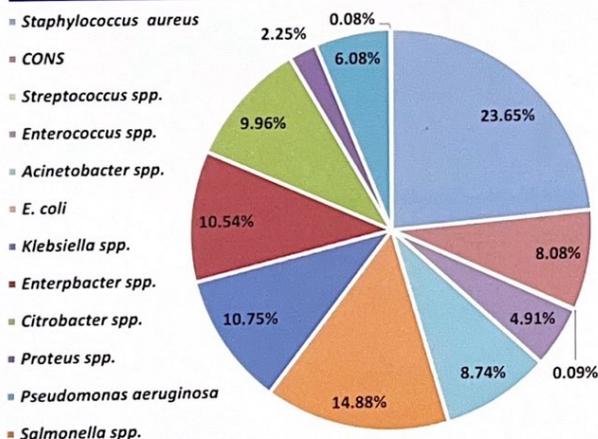
Bacterial culture positivity in Clinical samples



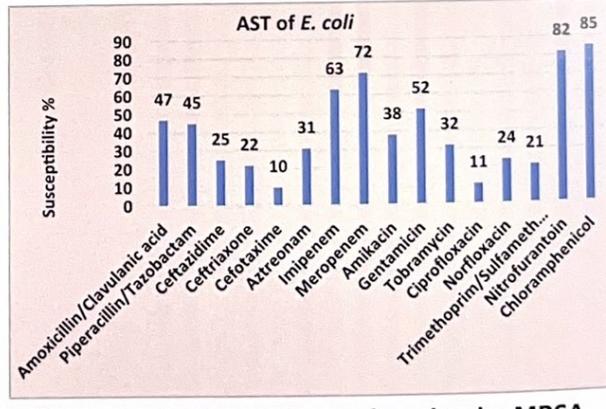
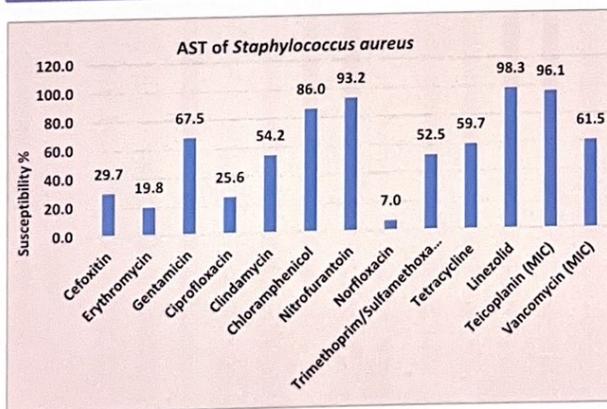
Bacterial culture positivity as per sample



Bacterial isolates from clinical samples : GTB hospital (2023)



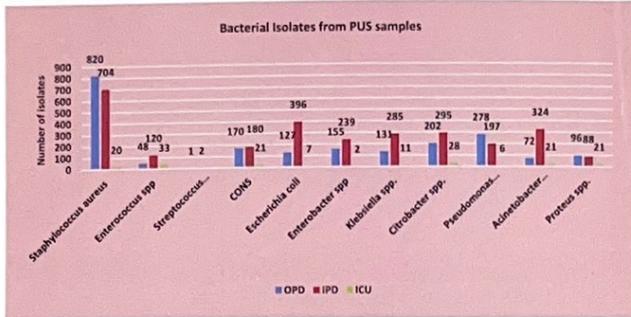
Bacteria (n=12538)	OPD	IPD	ICU
Acinetobacter species	163	598	300
Citrobacter species	534	646	86
Enterococcus species	208	339	50
Enterobacter species	641	759	151
Escherichia coli	718	1026	53
Klebsiella species	432	641	243
Proteus species	144	123	6
Salmonella species	3	7	0
Pseudomonas species	387	351	89
Staphylococcus aureus	994	1591	267
Other staphylococcus species	223	490	264
Streptococcus species	1	8	1
Neisseria gonorrhoeae	1	0	0
TOTAL	4449	6579	1510



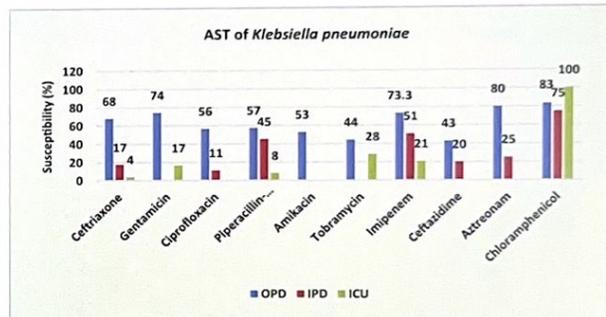
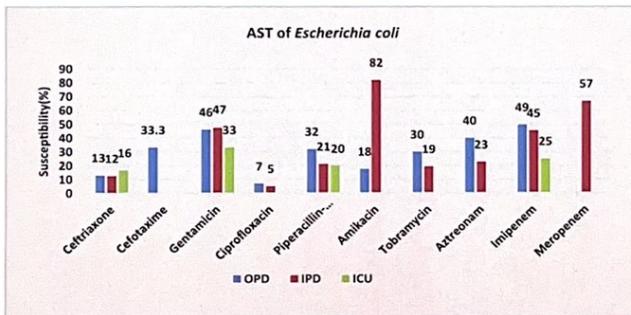
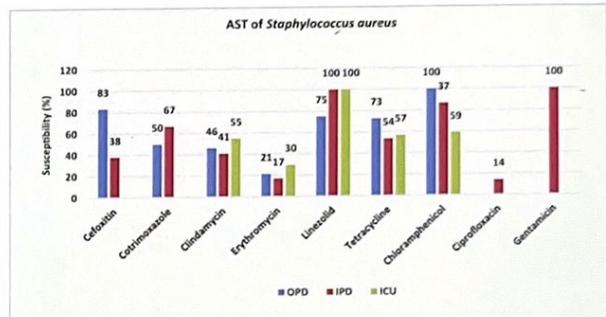
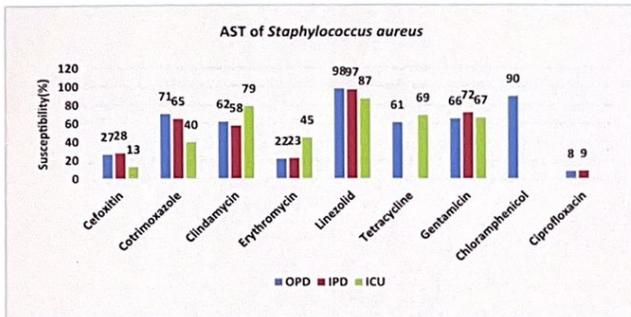
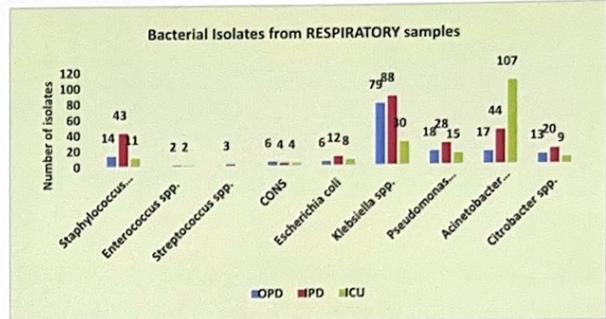
• 70% of *Staphylococcus aureus* isolated from clinical samples from GTBH were found to be MRSA (Methicillin Resistant *Staphylococcus aureus*) ; [OPD (28%), IPD (67%); ICU (84%)].

AST of bacterial isolates from clinical samples

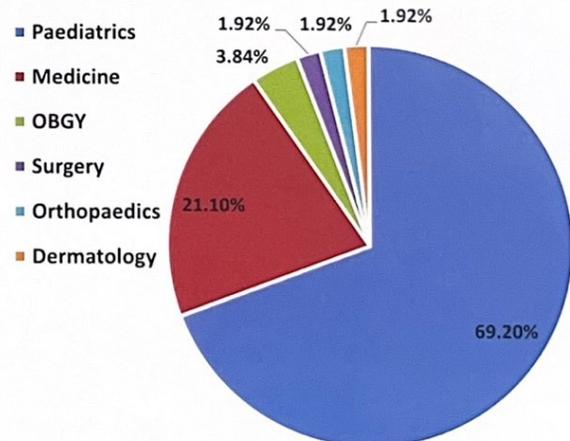
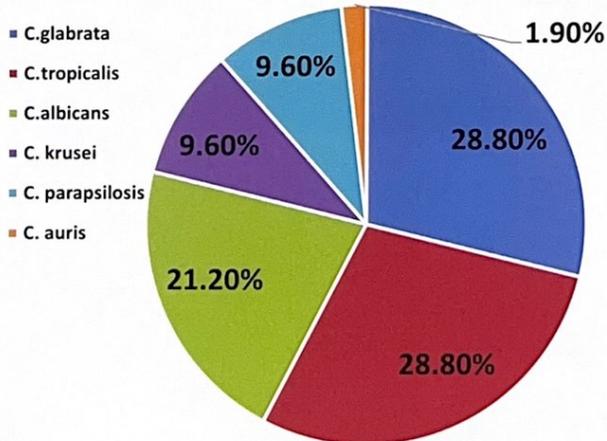
PUS & SPUTUM- BACTERIAL ISOLATES



RESPIRATORY –BACTERIAL ISOLATES



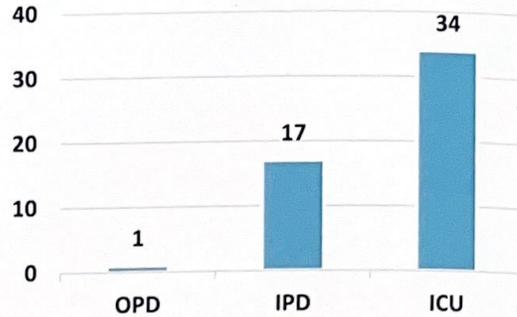
BLOOD – FUNGAL ISOLATES (n=52)



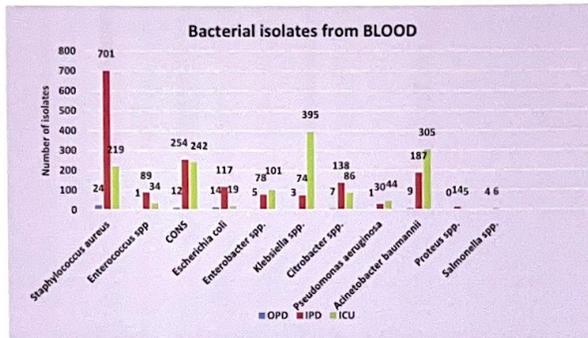
AST of bacterial isolates from clinical samples

BLOOD FUNGAL ISOLATES

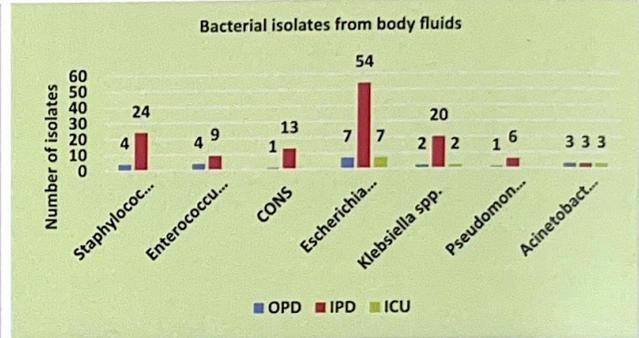
- Antifungal susceptibility interpreted as per CLSI M60 guidelines.
- 79% of yeast isolated from blood were *non-C. albicans Candida spp.*
- The 96% of candida isolates from blood were susceptible to Fluconazole and 100% were susceptible to Voriconazole.
- The location wise distribution of fungal isolates from blood is given in the graph.



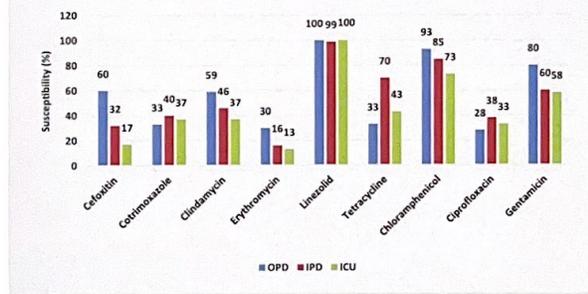
BLOOD BACTERIAL ISOLATES



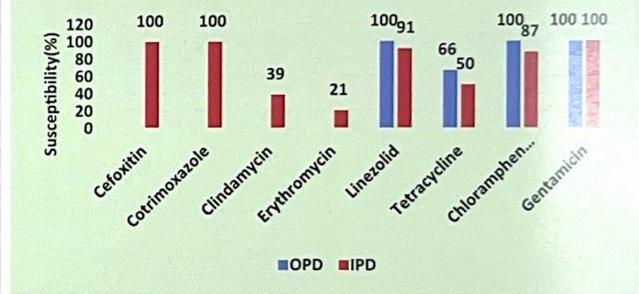
STERILE BODY FLUIDS (Other than Blood & CSF) BACTERIAL ISOLATES



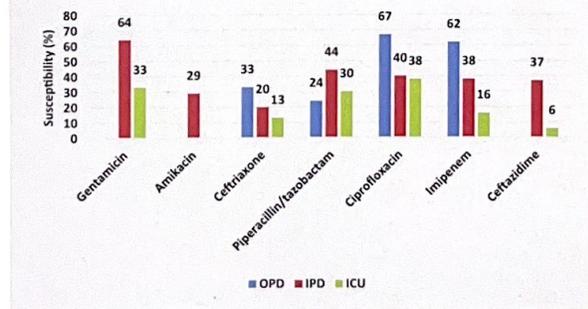
AST of Staphylococcus aureus



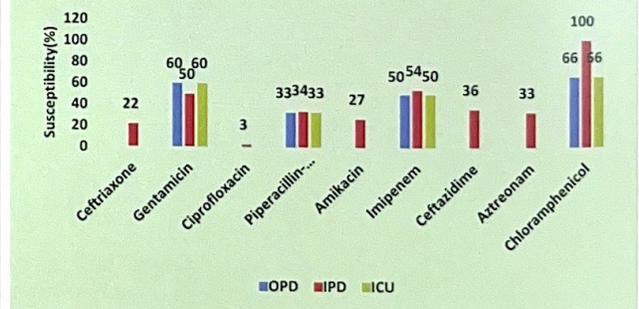
AST of Staphylococcus aureus



AST of Acinetobacter baumannii



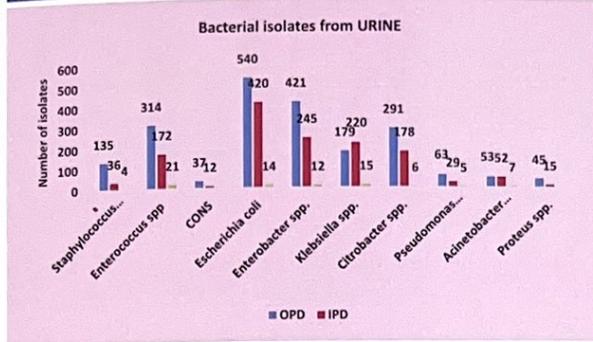
AST of Escherichia coli



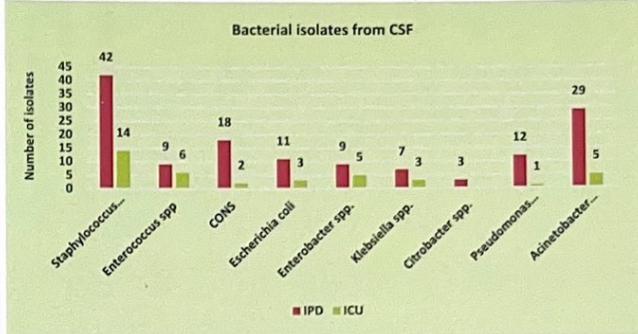
- AST of *Salmonella spp.* isolates from Blood- Ceftriaxone (78%), Ciprofloxacin(45%), Co-trimoxazole(50%), Chloramphenicol(82%), Piperacillin-tazobactam(90%).

AST of bacterial isolates from clinical samples

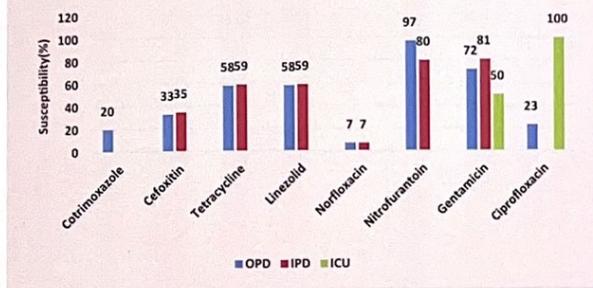
URINE- BACTERIAL ISOLATES



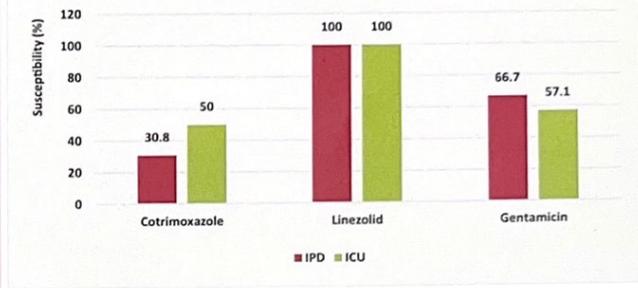
CSF – BACTERIAL ISOLATES



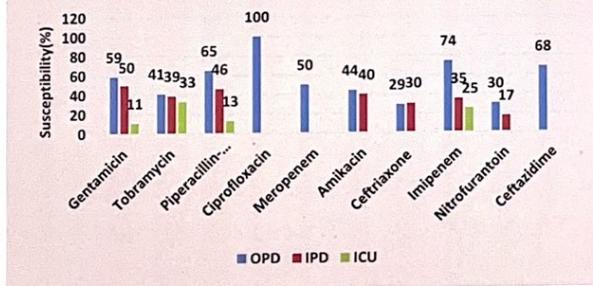
AST of *Staphylococcus aureus*



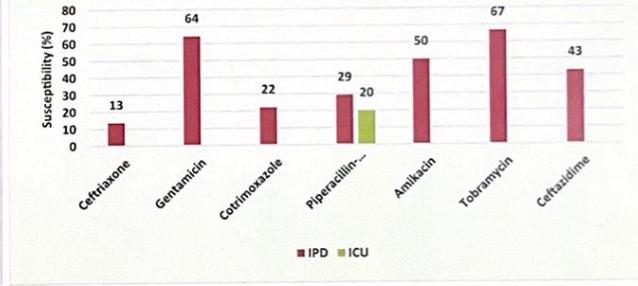
AST of *Staphylococcus aureus*



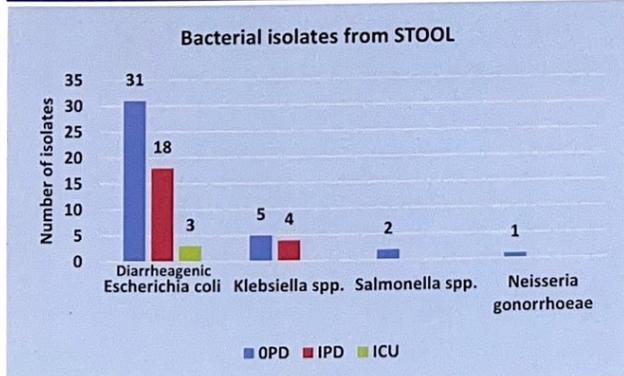
AST of *Escherichia coli*



AST of *Acinetobacter baumannii*



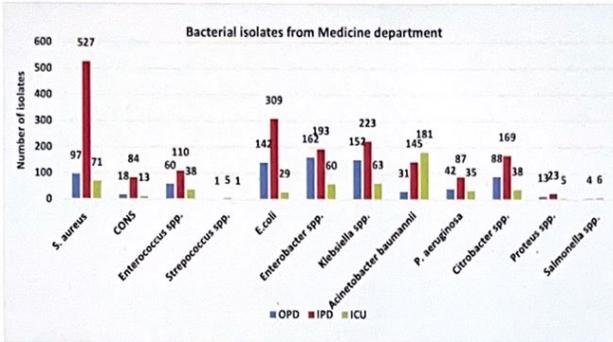
STOOL- BACTERIAL ISOLATES



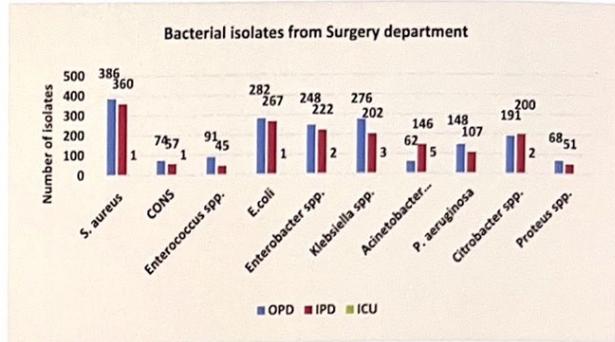
- Antimicrobial susceptibility testing (AST) was done by Kirby bauer disk diffusion method and interpreted as per CLSI M100 guidelines.
- Cascade reporting was done according to the antibiotics categorized into different tiers based on the CLSI guidelines.
- Distribution of the isolates in OPD, IPD & ICU has been plotted.
- Percentage susceptibility pattern of the most frequent gram positive and gram negative bacteria is given.

Distribution of Bacterial Isolates

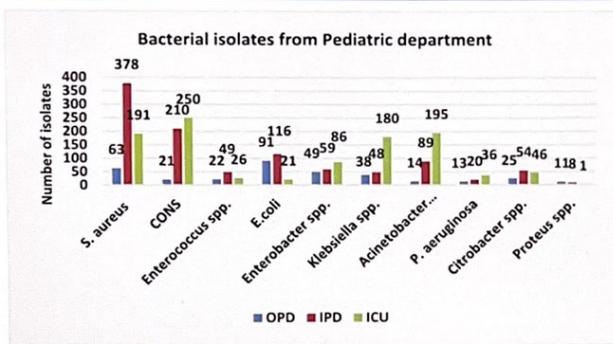
MEDICINE



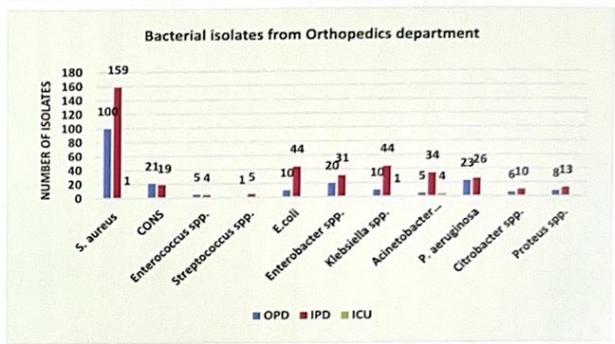
SURGERY



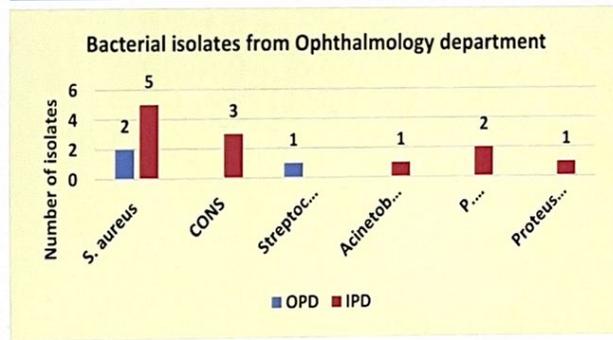
PEDIATRIC



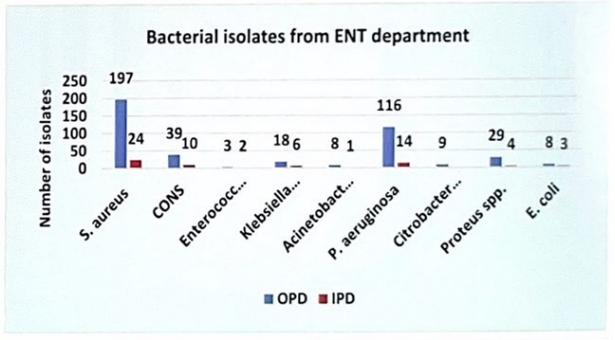
ORTHOPEDICS



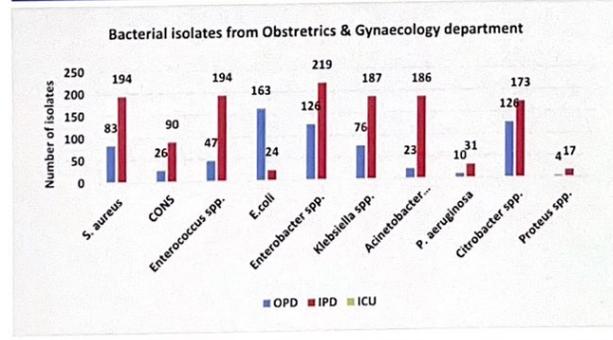
OPHTHALMOLOGY



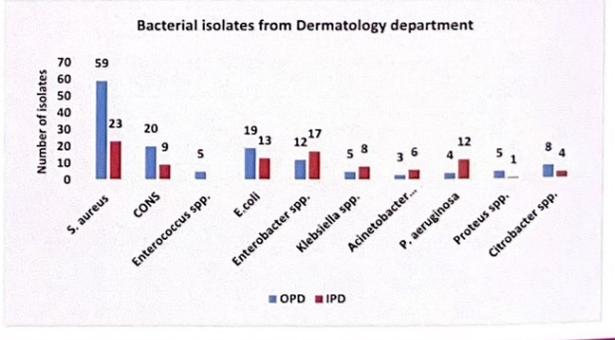
ENT



OBSTRETRICS & GYNAECOLOGY



DERMATOLOGY



Intrinsically Resistant Antimicrobials

BACTERIA	INTRINSICALLY RESISTANT TO
<i>Enterobacterales</i>	Clindamycin, Glycopeptides (vancomycin), Lipoglycopeptides (teicoplanin), Linezolid, Macrolides (Erythromycin, Clarithromycin, and Azithromycin)
<i>Klebsiella spp.</i> <i>Citrobacter koseri</i>	Ampicillin, Ticarcillin
<i>Klebsiella aerogenes</i> (formerly <i>Enterobacter</i>)	Ampicillin, Amoxicillin-clavulanate, Ampicillin-sulbactam, 1 st GC (Cefazolin, Cephalothin), Cephamycins (Cefoxitin, cefotetan)
<i>Citrobacter freundii</i> <i>Serratia marcescens</i>	Ampicillin, Amoxicillin-clavulanate, Ampicillin-sulbactam, 1 st GC, 2 nd GC (Cefuroxime), Cephamycins (Cefoxitin, cefotetan)
<i>Proteus mirabilis</i>	Tetracycline, Tigecycline, Nitrofurantoin, Polymyxin B, Colistin, Imipenem
<i>Proteus vulgaris</i>	Tetracycline, Tigecycline, Nitrofurantoin, Polymyxin B, Colistin, Ampicillin, 1 st GC, 2 nd GC
<i>Salmonella & Shigella spp.</i>	Aminoglycosides, first- and second-generation cephalosporins, and cephamycins
<i>Non-fermentative gram-negative bacteria</i>	Penicillin, Cephalosporins I, cephalosporin II, cephamycins, Clindamycin, vancomycin, Linezolid, erythromycin, azithromycin, clarithromycin
<i>Pseudomonas aeruginosa</i>	Ampicillin, Amoxicillin, Amoxicillin-clavulanate, Ampicillin-sulbactam, Ertapenem, Chloramphenicol, Cotrimoxazole, Cefotaxime, Ceftriaxone, Tetracycline, Tigecycline
<i>Acinetobacter spp.</i>	Ampicillin, Amoxicillin, Amoxicillin-clavulanate, Ertapenem, Chloramphenicol, Fosfomycin, Aztreonam
<i>Gram Positive Cocci</i>	Aztreonam, Polymyxin B/colistin, Nalidixic acid
<i>Enterococcus spp.</i>	Cephalosporins, Aminoglycosides (Except High Level), Clindamycin, Cotrimoxazole



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