

Table 1s: PCR primers used in this study and their expected amplicon sizes:

Primer	Sequence	Annealing temperature	Amplicon size (bp)	Ref.
<i>Sul1</i>	F-5' ACGAGATTGTGCGGTTCTTC-3' R- 5' GGTTTCCGAGATGGTGATTG-3'	55 °C	347	22
<i>Sul2</i>	F-5' CCGTCTCGCTCGACAGTTAT-3' R-5' GTGTGTGCGGATGAAGTCAG-3'	55 °C	506	22
<i>bla</i>_{TEM}	F-5'ATGAGTATTCAACATTTCCG-3' R-5'CCAATGCTTAATCAGTGAGG-3'	51 °C	832	24
<i>Bla</i>_{SHV}	3' F-5' CGCCGGGTTATTCTTATTTGTGCG- R-5' TCTTTCCGATGCCGCCGCCAGTCA3'	55 °C	1016	24
<i>bla</i>_{CTX-M 1}	F-5'AAA AATCACTGCGCCAGTTC -3' R-5'AGC TTATTCATCGCCACGTT-3'	52 °C	415	23
<i>bla</i>_{CTX-M 2}	F-5' CGACGCTACCCCTGCTATT-3' R-5'CCAGCGTCAGATTTTTCAGG-3'		552	23
<i>bla</i>_{CTX-M 8}	F-5'TCGCGTTAAGCGGATGATGC-3' R-5'AAC CCACGATGTGGGTAGC-3'		666	23
<i>bla</i>_{CTX-M 9}	F-5'CAAAGAGAGTGCAACGGATG-3' R-5'ATTGGAAAGCGTTCATCA CC-3'		205	23
<i>bla</i>_{CTX-M 25}	F-5'GCA CGA TGA CAT TCG GG -3' R-5'AAC CCACGATGTGGGTAGC-3'		327	23
ERIC-1 ERIC-2	5'-ATGTAAGCTCCTGGGGATTAC-3' 5'-AAGTAAGTGACTGGGGTGAGCG-3'	48 °C		26
<i>int1</i>	F-5' CAGTGGACATAAGCCTGTTC-3' R-5' CCCGAGGCATAGACTGTA-3'	55 °C	160	25
<i>int2</i>	F-5' GTAGCAAACGAGTGACGAAATG-3' R-5' CACGGATATGCGACAAAAAGGT-3'	55 °C	789	25

Table 2s: Demographic and clinical data among groups of UTI patients

Characteristic		Total (n = 516)		Isolated Bacterial species				P value
				Proteus (n = 103)		Other uropathogens (n = 413)		
Age (years)	Mean	43.1 ± 15.1		46.1 ± 15.6		42.3 ± 14.9		0.023
	Range	18-84						
Age group N (%)	18-59	461	89.3%	85	82.5%	376	91%	0.012*
	≥60	55	10.7%	18	17.5%	37	9%	
Gender	Male	236	45.8%	40	38.8%	196	47.5%	0.116
	Female	280	54.2%	63	61.2%	217	52.5%	
Type of visit	Outpatient	227	44%	24	23.3%	203	49.2%	<0.001*
	Inpatient	289	56%	79	76.7%	210	50.8%	
Catheterization	Yes	195	38.3%	55	53.4%	140	33.9%	<0.001*
	No	321	61.7%	48	46.6%	273	66.1%	
Fever	Yes	250	48.4%	72	69.9%	178	43.1%	<0.001*
	No	266	51.6%	31	30.1%	235	56.9%	
Dysuria	Yes	382	74%	60	58.3%	322	78.0%	<0.001*
	No	134	26%	43	41.7%	91	22.0%	

* (significant P value)

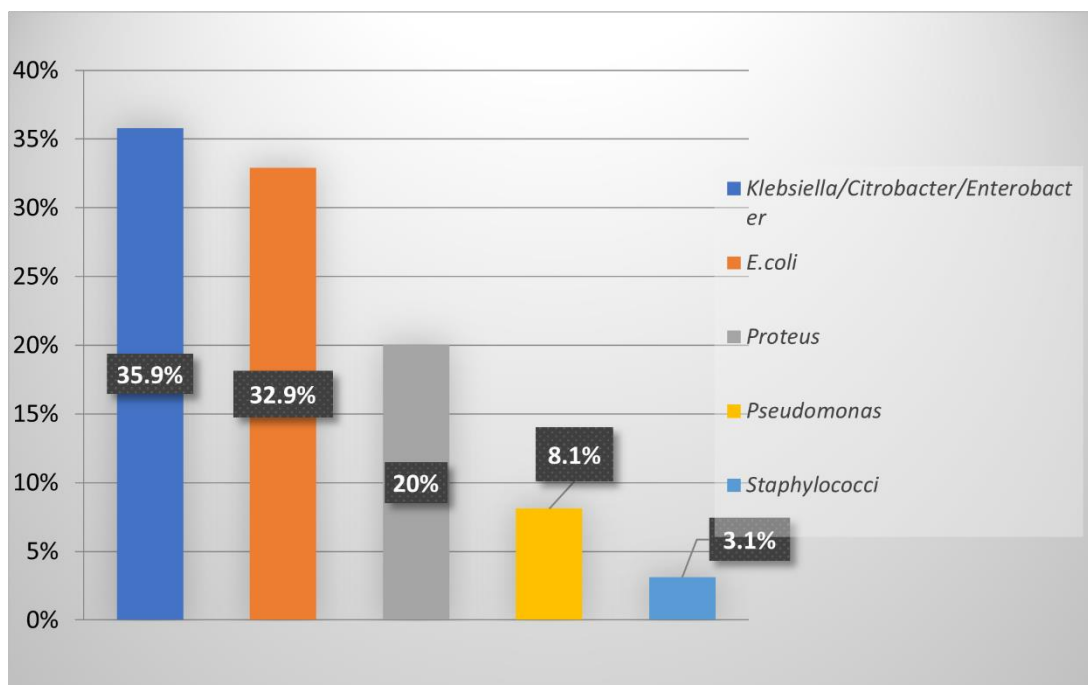


Figure 1s: Frequency of different uropathogens in urine samples

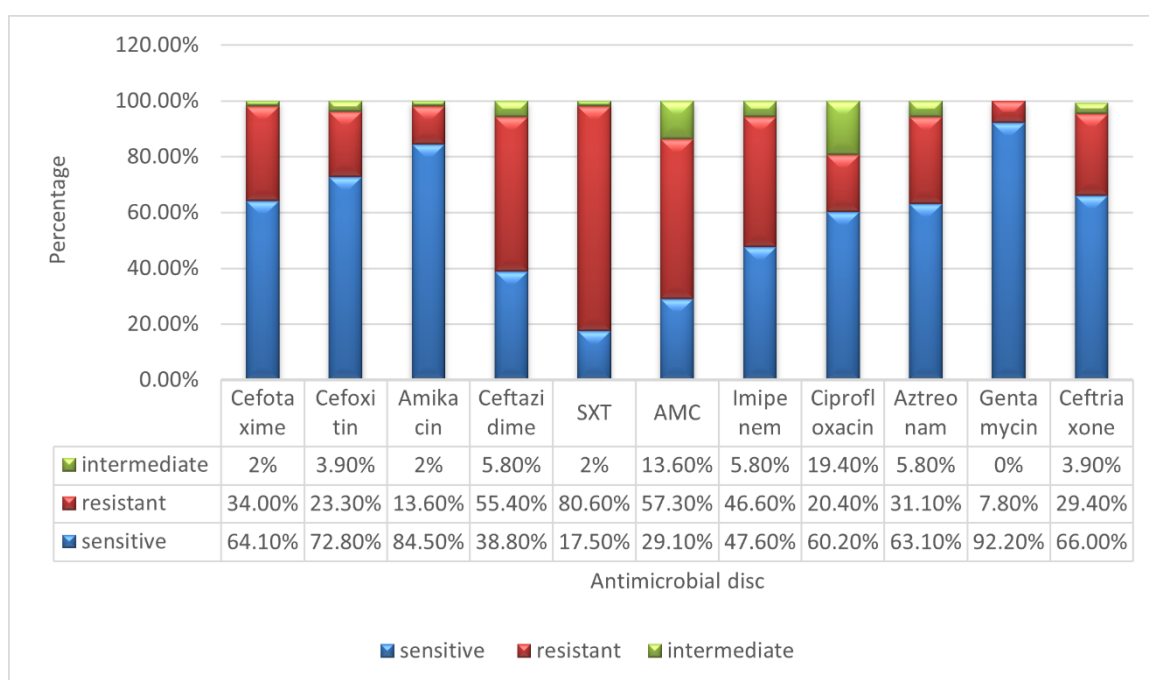


Figure 2s: Antimicrobial susceptibility patterns for isolated *Proteus* strains.

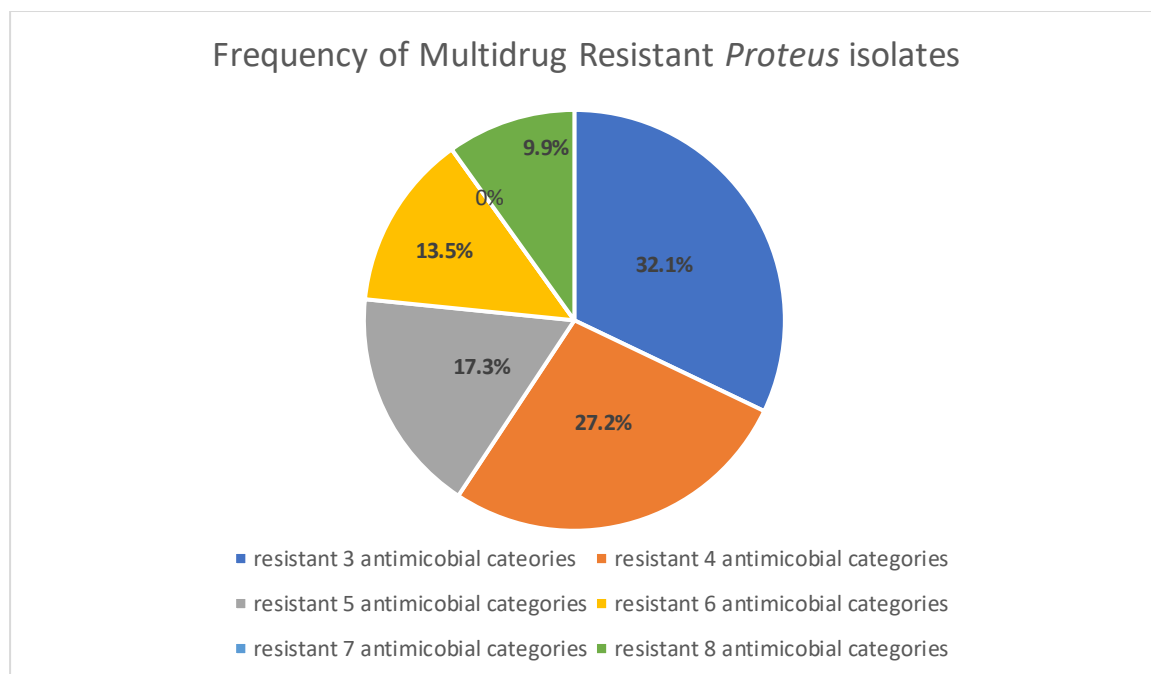


Figure 3s: Frequency of multidrug-resistant *Proteus* isolates according to the number of resistant antimicrobial categories

Table 3s: Percentage of different antibiotic resistance among ESBL-producing and non-ESBL-producing *Proteus* isolates:

Antimicrobial agent	ESBL producing isolates N=39	Non-ESBL-producing isolates N=64	P Value
Cefoxitin	14 (35.9%)	10 (15.6%)	0.025*
Amikacin	8 (20.5%)	6 (9.4%)	0.164
SXT	33 (84.6%)	50 (78.1%)	0.071
Imipenem	24 (61.5%)	24 (37.5%)	0.007*
Ciprofloxacin	11 (28.2%)	10 (15.6%)	0.279
Aztreonam	20 (51.3%)	12 (18.8%)	<0.001*
Gentamycin	6 (15.4%)	2 (3.1%)	0.024*

* (significant P value)

Table 4s: antibiotic resistance profiles of the 15 ESBL gene-producing *P. mirabilis*

ES BL Isol ate	IM P	CI P	CN	FO X	AK	SX T	<i>sul</i> 1	<i>sul</i> 2	AT M	AM C	CT X	CA Z	CR O	<i>bla</i> _{TE M}	<i>bla</i> SHV	<i>bla</i> _{CT X-M9}	<i>in</i> <i>tI</i> 1	<i>in</i> <i>tI</i> 2
1	27 -S	20- R	17- S	25- S	20- S	0-R	No	ye s	32- S	0-R	18- R	0-R	12- R	yes	No	No	+	+
2	25 -S	10- R	20- S	9-R	25- S	0-R	No	ye s	14- R	0-R	12- R	0-R	0-R	yes	No	yes	+	-
3	12 -R	24- I	20- S	20- S	18- S	0-R	ye s	ye s	16- R	14- I	27- S	15- R	26- S	No	No	yes	+	-
4	32 -S	28- S	20- S	24- S	22- S	0-R	ye s	ye s	30- S	0-R	0-R	0-R	0-R	yes	No	yes	+	-
5	0- R	40- S	20- S	22- S	24- S	0-R	ye s	ye s	30- S	20- S	12- R	0-R	12- R	yes	No	No	+	-
6	0- R	28- S	18- S	0-R	18- S	0-R	ye s	ye s	14- R	0-R	10- R	0-R	10- R	yes	No	No	+	+
7	0- R	26- S	22- S	0-R	18- S	0-R	ye s	ye s	20- I	0-R	0-R	0-R	14- R	No	ye s	No	+	+
8	26 -S	18- R	18- S	10- R	20- S	0-R	No	ye s	12- R	0-R	0-R	0-R	12- R	yes	No	yes	+	-
9	30 -S	20- R	18- S	25- S	22- S	0-R	No	ye s	31- S	0-R	17- R	28- S	15- R	yes	No	No	+	+
10	10 -R	23- I	19- S	20- S	25- S	0-R	ye s	ye s	16- R	0-R	29- S	13- R	28- S	No	No	yes	+	-
11	30 -S	28- S	23- S	25- S	25- S	0-R	ye s	ye s	28- S	0-R	0-R	15- R	0-R	yes	No	yes	+	-
12	0- R	36- S	22- S	20- S	24- S	0-R	ye s	Ye s0.	30- S	22- S	15- R	30- S	14- R	yes	No	No	+	-
13	12 -R	27- S	23- S	0-R	20- S	0-R	ye s	ye s	22- I	0-R	10- R	14- R	13- R	No	ye s	No	+	+
14	28 -S	33- S	22- S	22- S	18- S	0-R	ye s	ye s	16- R	0-R	13- R	0-R	0-R	yes	No	No	+	+
15	28 -S	10- R	19- S	25- S	22- S	0-R	No	ye s	30- S	10- R	15- R	0-R	25- S	yes	No	No	+	+

Table 5s: Different gene profiles of the phenotypic ESBL-producing *P. mirabilis* isolates from catheterized patients

Number of isolates (33)		<i>sul</i> genes		ESBL genes			Integron genes	
		<i>Sul1</i>	<i>Sul2</i>	<i>bla</i> _{TEM}	<i>bla</i> _{SHV}	<i>bla</i> _{CTX-M-9}	<i>int1</i>	<i>int2</i>
ESBL gene producers	2	+	+	+	ND	ND	+	ND
	2	+	+	+	ND	ND	+	+
	3	ND	+	+	ND	ND	+	+
	2	ND	+	+	ND	+	+	ND
	2	+	+	+	ND	+	+	ND
	2	+	+	ND	+	ND	+	+
	2	+	+	ND	ND	+	+	ND
Non- ESBL gene producers	2	+	ND	ND	ND	ND	+	ND
	2	+	+	ND	ND	ND	+	+
	2	+	+	ND	ND	ND	+	ND
	4	ND	ND	ND	ND	ND	+	+
	6	+	+	ND	ND	ND	+	+
	2	ND	ND	ND	ND	ND	+	ND

(+ gene detected; ND gene not detected)