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The Burden Of Multidrug-Resistant Urinary Tract Infections

koubaa_makram@medecinesfax.org

Fatma Hammami, Makram Koubaa, Amal Chakroun, Khaoula Rekik, Fatma Smaoui, Emna Elleuch, Chakib Marrakchi, Mounir Ben Jemaa

Infectious Diseases Department, Hedi Chaker University Hospital, University of Sfax, Tunisia

Background

Urinary tract infections (UTIs) are the most common reason for consultation and for antibiotic use. Many factors interfere and increase the risk for antimicrobial resistance. We aimed to study the clinical, laboratory and evolutionary particularities associated with multidrug-resistant (MDR) UTIs.

Methods

We conducted a retrospective study including all patients hospitalized for UTIs in the infectious diseases department between 2011 and 2018.

Results

► **Total:** 867 cases of UTIs

► **Distribution of cases:**

- MDR UTIs: 407 cases: 46.9%
- Non MDR UTIs: 460 cases: 53.1%

► **Gender:** 306 males: 35.3%.

► **Mean age:** 53±21 years.

► **Demographic characteristics:**
Patients aged ≥65 years were significantly more affected with MRD UTIs (p< 0.001) (Table 1).

► **The mean delay to hospitalization:** was significantly longer among MDR UTIs cases (5[3-10 days] vs 3[2-7 days]; p< 0.001).

► MDR UTIs were more frequently documented to *Klebsiella pneumoniae* (19.4% vs 12%; p=0.002).

Table 1: Demographic characteristics of patients with urinary tract infections

	MRD UTIs	Non MRD UTIs	p-value
Males gender, n (%)	159 (39.1)	147 (32)	**0.02**
Patients aged ≥65 years, n (%)	221 (54.3)	168 (36.5)	**< 0.001**
Diabetes, n (%)	155 (38.1)	113 (24.6)	**< 0.001**
Antibiotic consumption, n (%)	125 (30.7)	60 (13)	**< 0.001**
Surgical intervention of the urinary tract, n (%)	53 (13)	25 (5.4)	**< 0.001**

MRD: multidrug-resistant, UTIs: Urinary tract infections, n: number, %: percentage

► **Disease evolution:**
MRD UTIs were significantly associated with complications (p=0.02) (Table 2).

Table 2: Disease evolution of patients with urinary tract infections

	MRD UTIs	Non MRD UTIs	p-value
Complications, n (%)	37 (9.1)	24 (5.2)	**0.02**
Recurrence, n (%)	18 (4.4)	7 (1.5)	**0.01**
Death, n (%)	9 (2.2)	2 (0.4)	**0.02**

MRD: multidrug-resistant, UTIs: Urinary tract infections, n: number, %: percentage

► As to laboratory investigations and antibiotic duration, no significant difference was noted (p>0.05).

Conclusion

Our study showed that MDR UTIs were associated with not only complications, but also with a poor prognosis. The continuous surveillance for antimicrobial resistance and the rational use of antibiotics are crucial in order to improve the prognosis.