CO127

Empirical vs. Documented Use of Ceftolozane/Tazobactam for the Treatment of Complicated Infections in French Hospital Settings

CONDUCT
ETUDE SUR LES CONDITIONS D'UTILISATION DU CEFTOLOZANE/TAZOBACTAM (Zerbaxa®) EN VIE RÉELLE

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Objectives

This prospective, multicenter, French observational study was set up to describe the conditions of use of **Ceftolozane/Tazobactam (TOL/TAZ)** in hospital settings, and patient outcomes. This study was requested by the French HTA body (HAS).

Methods

Adults who received at least one dose of TOL/TAZ and gave their informed consent to participate in the study were eligible for inclusion. Patients were enrolled between October 2018 and December 2019. Enrolled patients were treated according to standard of care and followed up until stop of TOL/TAZ. Prescription was either documented, following the results of the antibiogram, empirical**.**

Figure 1 : Flowchart of Patients

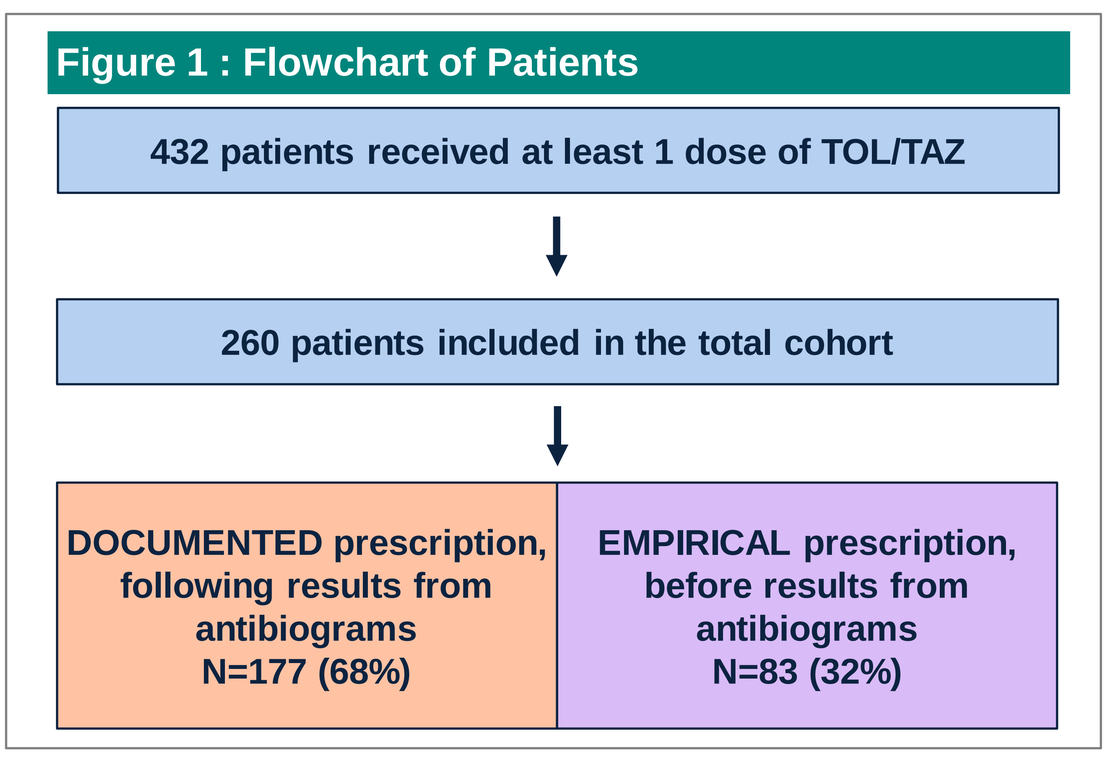

Table 1 : Baseline Characteristics of Included Patients

Total included patients	Total (N=260)	Documented (N=177)	Empirical (N=83)
Age (years), mean (SD)*	56.8 (18.8)	61.8 (17.0)	46.3 (18.3)
Sex, Men [n (%)]	175 (67.3)	130 (73.4)	45 (54.2)
Overweight, n (%) (25≤BMI≤30 kg/m²)	58 (22.3)	46 (25.9)	12 (14.5)
Obese, n (%) (BMI >30 kg/m²)	43 (16.5)	35 (19.8)	8 (9.6)
MDR organism[1]	210 (80.8)	166 (93.8)	44 (53.0)
Severely ill patients (SOFA score ≥ 6)[1]	49 (18.8)	41 (23.2)	8 (9.6)
Comorbidities, n (%)	231 (88.8)	153 (86.4)	78 (94.0)
Chronic pulmonary disease	116 (44.6)	58 (32.8)	58 (69.9)
Diabetes	74 (28.5)	48 (27.1)	26 (31.3)
Renal failure	54 (20.8)	38 (21.5)	16 (19.3)
Cancer	53 (20.4)	45 (24.3)	8 (9.6)
Immunocompromised patients, n (%)	79 (30.4)	58 (32.8)	21 (25.3)
Charlson index ≥5, n (%)	103 (39.6)	85 (48.0)	18 (21.7)

[1] MDR (Multi-drug resistance): Non-susceptibility to at least one agent in ≥3 antimicrobial categories – SOFA: Sequential Organ Failure Assessment

Table 2 : Previous Treatments

Total included patients	Total (N=260)	Documented (N=177)	Empirical (N=83)
Previous treatments, n (%)	160 (61.5)	137 (77.4)	23 (27.7)
Four most frequent previous therapeutic lines			
Carbapenems	43 (26.9)	35 (25.5)	8 (34.8)
Cephalosporins	29 (18.1)	25 (18.2)	4 (17.4)
Penicillins	24 (15.0)	22 (16.1)	2 (8.7)
Aminoglycosides	19 (11.9)	18 (13.1)	1 (4.3)
Three main reasons for stop of previous treatment			
Adaptation to microbiological results	102 (63.8)	99 (72.3)	3 (13.0)
Treatment failure	24 (15.0)	10 (7.3)	14 (60.9)
Partial cure	6 (3.8)	5 (3.6)	1 (4.3)
Other	22 (13.8)	19 (13.9)	3 (13.0)

Table 3 : Concomitant Treatments

Total included patients	Total (N=260)	Documented (N=177)	Empirical (N=83)
Concomitant treatments	128 (49.2)	72 (40.7)	56 (67.5)
Treatment initiated at the same time as TOL/TAZ	95 (74.2)	50 (69.4)	45 (80.4)
Type of treatment (N of treatments[a])	N=161[a]	N=90[a]	N=71[a]
Aminoglycosides	53 (32.9)	24 (26.7)	29 (40.8)
Fluoroquinolones	31 (19.3)	16 (17.8)	15 (21.1)
Glycopeptides and Lipoglycopeptides	19 (11.8)	11 (12.2)	8 (11.3)

[a] One patient could have multiple prior treatments

Table 4 : End of TOL/TAZ Treatments

Total included patients	Total (N=260)	Documented (N=177)	Empirical (N=83)
Duration of TOL/TAZ treatment (days)			
n	259	176	83
Mean (SD)*	15.7 (14.5)	16.1 (15.7)	14.8 (11.5)
Median	14.0	12.5	15.0
Range	1.0 - 115.0	1.0 - 115.0	2.0 - 93.0
Reason for stop of TOL/TAZ			
Cured [a]	137 (52.7)	113 (63.8)	24 (28.9)
Partially cured [b]	48 (18.5)	14 (7.9)	34 (41.0)
Cured+Partially cured	**185 (71.4)**	**127 (72.2)**	**58 (69.9)**
Adaptation to microbiological results	31 (11.9)	20 (11.3)	11 (13.3)
Adverse event	6 (2.3)	3 (1.7)	3 (3.6)
Treatment failure	10 (3.8)	5 (2.8)	5 (6.0)
Death	9 (3.5)	7 (4.0)	2 (2.4)
Other	19 (7.3)	15 (8.5)	4 (4.8)

**SD: Standard Deviation*

[a] Complete cure was defined as not requiring therapy escalation nor additional antibiotic treatment

[b] Defined as partial resolution of clinical signs and symptoms and/or need for additional antibiotic treatment

Conclusions

This real-world study showed considerable disease burden including high prevalence of MDR organisms in patients receiving TOL/TAZ. Irrespective of prescription type, more than two-third of patients were cured/partially cured; treatment failures were low. Findings suggest TOL/TAZ can be considered an effective option for the treatment of complicated bacterial infections in healthcare settings.

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