INTRODUCTION

Temocillin (6α-methoxy ticarcillin) is well known for its resistance to degradation by β-lactamases including most ESBL. It is therefore considered as a sparing drug for carbapenems. Its pharmacokinetic is unknown in haemodialysis patients, which often present a wide pharmacokinetic variability that can lead to subtherapeutic concentrations.

Determining temocillin in the serum of these patients is challenged by the fact they receive several other medications and accumulate metabolites that can interfere in the assay.

AIM

To develop and validate a new method to analyse temocillin in serum from haemodialysis patients, and to quantify by an HPLC system.

METHODS

Solid phase extraction of temocillin from human serum with Waters Oasis® MAX cartridges (sorbent mass 100±30 mg).

HPLC analysis coupled to a photodiode array detector (HPLC–UV) RP-18 Lichrospher® column (250 x 4 mm, 100A, 5µm) with isocratic elution of 100mM sodium acetate buffer pH 7.0 (acetonitrile 95.5, v/v), flow rate 1 mL/min; ticarcillin was internal standard.

Clinical evaluation in 4 haemodialysis patients - degree of dialyzability of temocillin (extraction ratio = ER, haemodialysis clearance = CLHD)

RESULTS

CONCLUSIONS

This fully validated method enables detection and quantification of temocillin in serum of haemodialysis patients in a simple, robust and reproducible manner. It can prove beneficial for optimal management of haemodialysis patients.

ACKNOWLEDGMENTS

We thank Laurence Dinaux from Waters Corporation, Zelkin, Belgium, and Dr. Amaud Capron from the Cliniques Universitaires Saint Luc, Brussels, Belgium for useful suggestions and guidance. Temocillin was the generous gift of from Eumedica s.a., Manage, Belgium.

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