Evaluation Protective Effect of Silymarin Against Carbon Tetrachloride -induced Liver Injuries in Rats and Mice Models

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Background: Bloodstream infection (BSI) is an important cause of serious morbidity and mortality for hospitalized patients. Empirically Gram stain of bacteria gives the first clue for the etiology of infection and medical treatment. But the delayed treatment on 1 or 2 days after phenotypic identification and drug susceptibility testing may cause potential danger to patients. Rapid drug susceptibility testing can provide earlier information to guide treatment and in less time than bacterial culture and sensitivity testing, for antibiotics therapy.

Methods: In this study, we excluded samples of polymicrobial bacteremia. We collected isolates from 815 infection episodes caused by *Escherichia coli* (57%), *Klebsiella pneumoniae* (20.16%), *Enterobacter cloacae* (6%), *Ps.aeruginosa* (9.1%), *Stenotrophomonas maltophilia* (3.1%), and *Acinetobacter baumannii* (3.1%) in a 10-month period. We identified those bacteria with direct susceptibility test with the use of Phoenix100 (BD) during a 10-month period.

Results: The results of direct susceptibility were concordant (99%-100%) with those obtained from Phoenix100.

Conclusion: These results have the potential to guide clinicians to initiate an early antimicrobial therapy in febrile patients with sepsis shock.

Key words*: *bloodstream infection, bacteremia, direct susceptibility test

Introduction

A wide variety of phytochemicals inclusive of Silymarin have been reported to have substantial anti-carcinogenic activity because of their antioxidant and antiinflammatory properties. Silymarin, a flavanolignan, extracted from the fruits and seeds of the plant milk thistle (*Silybum marianum* L. Gaertn.)[1]. Milk thistle belongs to the family of Asteraceae and primarily is an indigenous plant of Mediterranean region and southwest Europe. Silymarin is a mixture of mainly three flavonolignans, Silybin (Silibinin), Silydianin and Silychristin [2-3]. Silibinin is the major (70–80%) and most active biological component of Silymarin. The seeds of milk thistle have been used for the last 2,000 years for liver diseases. Pharmacological studies revealed that Silymarin is non-toxic even at higher physiological doses, which suggests its safer use for humans [4]. Laboratory studies suggest that there is no significant difference between Silymarin and Silibinin in

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