

and recombinant protein was purified by Ni-NTA agarose resins. Recombinant proteins were eluted with 250mM imidazol. Imidazol removed by dialysis. Proteins were assayed by Western-blotting and rBCSP31 was probed by *Brucella* rabbit anti serum. Purified protein injected to 32 semiannual BALB/c mice for survey of its protection effect.

Results: Percentage of clearance and log unit protection in injected mice showed the significant protection against colonization of *Brucella melitensis* in spleen of mice.

Conclusion: BCSP31 were successfully cloned, expressed and purified. Injections of this recombinant protein can protection of mice against colonization in spleen versus of challenge strain.

Phenotypic detection of Extended Spectrum Beta Lactamase produced by Multi drug resistant *Pseudomonas aeruginosa* strains isolated from burned patients

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Introduction and Objectives: *P. aeruginosa* is an important opportunistic pathogen caused nosocomial infections especially in immunocompromised patients such as burned patients. *P. aeruginosa* potentially is resistant to the different broad spectrum antibiotics due to its ability to produce ESBL. Physicians face to serious problems for treatment of burned patients because of this characteristic of *P. aeruginosa*.

Materials and Methods: In the present study during a period of 6 months, 106 strains of *P. aeruginosa* were isolated patients that were admitted to Motahari hospital in Tehran for at least 48 hours. Identification of bacteria was done with specific biochemical test. MDR *P. aeruginosa* determined by disk diffusion methods and ESBL producing was screened by double disc synergy test.

Results: According to CLSI standard guideline, the percentage of resistance to antibiotics used in this study included: Cloxacillin (100%), Cefotaxim(98%), Ticarcillin and Ciprofloxacin (93%), Imipenem and Tobromycin (92%), Ceftazidim (86%), Gentamycin (48%) and Colistin (1%). 18 isolates (17%) were ESBL positive indicated a significant zone size enhancement with both Cefotaxim and / or Ceftazidim plus clavulanic acid discs when compared with the inhibitory zone of Cefotaxim and / or Ceftazidim discs.

Conclusion: Maximum resistance in this study was related to Cloxacillin (100%) and minimum resistance was related to Colistin (1%). Based on our results rapid spread of resistance among bacteria as result of the extensive use of antibiotics, is a matter of concern for the optional treatment of the patients, particularly in burn wards. Determination of ESBL production of MDR *P. aeruginosa* strains seems to be essential.

Survey of Carbapenem-resistant *Pseudomonas aeruginosa* isolates from Motahari burn centre: Detection of ESBL and carbapenemase

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Introduction and Objectives: *Pseudomonas aeruginosa* is a problematic nosocomial pathogen since it cause complicated infection in immunocompromised and critically ill patients. Carbapenem is a chemical widely used in consumer products as an anti - *Pseudomonas* agent. Studies have shown that some species of *P. aeruginosa* are resistant to carbapenem and, cause increasing of morbidity and mortality. This study was designed to evaluate drug susceptibility and broad spectrum β - lactamase and carbapenemase producing *P. aeruginosa* isolated in burn patients, Tehran, Iran.

Materials and Methods: One hundred and five clinical *P. aeruginosa* isolates were collected during 11 months. *P. aeruginosa* isolates were analyzed for antibiotic susceptibility with Kirby - Bauer disk diffusion method using interpretative guidelines of CLSI. All imipenem - resistant isolates were screened for ESBL and metallo- β -lactamase production by double disk assay and EDTA disk method, respectively.

Results: Drug susceptibility tests were shown high resistance for tazobactam+piperacillin (55%), piperacillin (60%), cefepime (86%), meropenem (68%), cefotaxime (61%), imipenem (68%), ticarcillin (84%), gentamicin (83%), amikacin (71%), kanamycin (98%), tobramycin (95%), ceftazidime (75%) and ciprofloxacin (55%); furthermore, low resistance for colistin (10%). We observed ESBL and carbapenemase production in 25.75% and 20% isolates, respectively.

Conclusion: In conclusion, the results show that extreme consumption of carbapenems group and false detection of bacterial resistance lead to emergence of ESBL and imipenemase producing isolates. Then, use of some antimicrobial agents must be restricted due to existence of high resistance and using of combined effective antibiotics is recommended.

In vitro antimicrobial activity of water extract of *Acacia nilotica* against streptococcus bovis and salmonella typhimurium

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Introduction and objectives: *Acacia* is a genus of shrubs and trees belonging to the subfamily Mimosoideae of the family Fabaceae, first described in Africa by the Swedish botanist Carl Linnaeus in 1773. Many non-Australian species tend to be thorny, whereas the majority of Australian acacias are not. They are pod-bearing, with sap and leave typically bearing large amounts of tannins and condensed tannins that historically in many species found use as pharmaceuticals and preservatives.

Methods and materials: 100 g of dried plant material in 250 cc distilled water for 48 to 72 hours at 20 to 30 ° C and then placed over the duration of pressing the dry matter in water and wash with 50 cc distilled water remains liquid herbal extracts 50 percent. The antimicrobial activity of Extracts was determined by the disc diffusion method. Susceptibility tests were performed by the disc diffusion method of Bauer et al with Mueller Hinton agar.

Results: The antimicrobial activity of *Acacia nilotica* Extracts was assayed in vitro by agar disc diffusion method against streptococcus bovis and salmonella typhimurium. Aqueous