**Original article:**

**Prevalence of Extended spectrum beta lactamase (ESBL) producing *Pseudomonas aeruginosa* strains recovered from human patients in Himachal Pradesh**

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**Abstract**

**Introduction:** Extended spectrum beta lactamases are on the rise in nosocomial settings across the globe.Hence, it is necessary to know the prevalence of ESBL so as to formulate a policy of empirical therapy in high risk units. Present study aims at assessing the prevalence of ESBL producing P. aeruginosa in Shimla region of Himachal Pradesh.

**Methods:** A total of 200 isolates of P. aeruginosa were obtained from Indira Gandhi Medical College, Shimla, Himachal Pradesh. Of these, 180 isolates were confirmed as P. aeruginosa on the basis of morphology, Gram’s staining and biochemical tests. For preliminary screening of ESBL producing P. aeruginosa, the susceptibility of the isolates was determined against third generation cephalosporins following the method of Kirby Bauer (1966)1 . These antibiotics are most commonly used to treat P. aeruginosa infections. ESBL positive isolates were confirmed by Double disc diffusion synergy test (DDST) and E test.

**Observations and Results:** 95% (171/180) isolates were ESBL producers in the preliminary screening, 56 /171 (32.75%) isolates were confirmed as ESBL producers by DDST method. But only 26.67% (8 out of 30 DDST positive isolates) were ESBL producers by E test also. The DDST thus, was more sensitive test as compared to E test for detecting ESBL producers. MIC values as determined by E test were recorded as >16µg/ml for mix and 0.442µg/ml for mix+ respectively.

**Conclusion:** The present study reveals moderate prevalence of ESBL producingP. aeruginosain thestate of Himachal Pradesh which might have implications in treating infections due to this organism.

**Keywords**- Extended spectrumβ– lactamases, Double disc diffusion synergy test, E – test

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