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Title: Surveillance of antibiotic resistance in *Streptococcus pneumoniae* from 2000 to 2011 and serogroup distribution in Tunisia

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Body: Worldwide spread of antibiotic resistance in *Streptococcus pneumoniae* is a major problem and has reached very high levels in certain countries. In this study, we report, the level of resistance of *Streptococcus pneumoniae* over a 12-year period and the serogroup's distribution in Tunisia. From January 2000 to december 2011, 1953 strains were collected, in Abderahman Mami Hospital of pneumology. This strains was isolated from respiratory specimen (90,5%) and blood, pus and cerebral spinal fluid (9,5%). In vitro susceptibility to antimicrobial agents was determined by the agar dilution method according the CA-SFM guidelines. The MICs of penicillin G, amoxicillin and cefotaxim were studied by the E-test method (AB Biodisk). The strains were serogrouped by latex agglutination using pneumotest-latex kits (Statens Serum Institute, Copenhagen Denmark). The rate of penicillin G non susceptible pneumococci (PNSP) was 40,4% including 8,2% of high resistance level. The strains showed reduced susceptibility to amoxicillin and cefotaxim in 17,4% and 12,7% of cases respectively. An increase of resistance is showed from 2000 to 2011 to B-lactamin. In addition, high levels of resistance to other antibiotics were noted. Thus 60,7%, 40,9% and 14,2% of strains were resistant to erythromycin, tetracycline and chloramphenicol respectively. The most common serogroups were 19, 6, 9, 14, 3 and 23 and were associated to penicillin G non susceptible pneumococci. Serogroup 1 was also found in severe pneumococcal infection. In conclusion, the high rate of PNSP and the multidrug resistance of *S.pneumoniae* underlight the need of rational use of antibiotics.