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Title: Effects of vaccination on clinical presentation of community acquired pneumonia (CAP)

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Body: **AIM:** We aimed to evaluate the effects of immunization with the influenza and pneumococcal vaccines on clinical presentation of CAP. **METHODS:** To analyze the effects of being vaccinated for both influenza and pneumococcus, the recordings of 404 patients registered to Turkish Thoracic Society Respiratory Infections Task Group pneumonia database were evaluated. **RESULTS:** Out of 787 patients registered to database, the vaccination status of 404 were recorded. Thirty patients had both the influenza and pneumonia vaccines and 374 had received neither. Comorbidities were present in 97% and 82% of vaccinated and unvaccinated patients, respectively ($p= 0.04$). Prevalence of fatigue (74%) and gastrointestinal symptoms (24%) was significantly higher in unvaccinated group. Sputum cultures were positive in 40 % of immunized and 17% of unvaccinated group ($p= 0.03$). Chest X-ray presentations of pneumonia were also significantly different and whilst consolidation was seen more frequently in unvaccinated patients (76%vs47%), interstitial opacities were more common (70%vs 35%) in vaccinated patients. Systolic and diastolic blood pressures were lower and critical laboratory data such as AST,ALT,PaO₂/FiO₂ values were significantly higher in the unvaccinated group. **CONCLUSION:** The high percentage of comorbidities in unvaccinated patients suggested a lack of adherence to immunisation programme in indicated groups. High frequency of clinical presentations of atypical pneumonia in vaccinated, and typical pneumonia in unvaccinated cases suggested that immunization with pneumococcal

vaccines could be protective against pneumococcal infections, although this needs to be verified with further microbiological analysis of the database.