



PREDICTIVE ACCURACY OF ANTICHOLINERGIC BURDEN SCALES FOR ECG ABNORMALITIES IN OLDER ADULTS

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Introduction. Polypharmacy and anticholinergic burden (AB) are common in older adults, but their impact on cardiac electrophysiology remains unclear.

Objectives. To compare seven validated scales in predicting electrocardiogram (ECG) abnormalities and identify the tool with the highest accuracy in geriatric patients.

Materials and Methods. This multicenter prospective study included 292 patients (mean age 80.7±6.2 years). We used Anticholinergic Activity Scale (AAS), Anticholinergic Burden Classification (ABC), Anticholinergic Cognitive Burden (ACB), Anticholinergic Drug Scale (ADS), Anticholinergic Risk Scale (ARS), Clinician-Rated Anticholinergic Score (CRAS), and Anticholinergic Loading Scale (ACL) to assess AB. Pathological 12-lead ECG findings included Atrial Fibrillation (AF) and conduction blocks. Accuracy was assessed using ROC curves and multivariate logistic regression.

Results. Pathological EKGs were found in 12.1% of patients. ABC, ACB, and ADS were significantly associated with ECG abnormalities and AF. ROC analysis identified the ABC scale as the best predictor for overall ECG abnormalities (Area Under the Curve [AUC] 0.666; p=0.001) and AF (AUC 0.715; p<0.001). In multivariate models, ABC remained an independent predictor (Odds Ratio [OR] 1.531; 95% Confidence Interval [CI] 1.198-1.956; p=0.001), alongside age and cardiological symptoms.

Conclusions. The Anticholinergic Burden Classification scale most effectively identifies patients at risk of cardiac instability. A high ABC score is a clinical 'red flag' for arrhythmic risk and warrants proactive monitoring, periodic ECGs, and AF screening. Early identification prevents serious thromboembolic or hemodynamic complications. Targeted deprescribing is needed to restore vagal control, mitigate cardiotoxicity, and preserve autonomy in elderly patients.