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Evaluation of Digoxin users presenting to emergency service

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Introduction: Even though many studies from past decades have shown that digoxin does not have survival advantage it is still widely used in Turkey. Besides, it was shown that digoxin has been used most commonly in Turkey among European countries. Digoxin is identified in the Beers Criteria as a potentially inappropriate medication to be avoided in patients 65 years and older as first-line therapy for atrial fibrillation or heart failure.

Methods: With this study we prospectively investigate digoxin users admitted to emergency department; in a 6-month-period we followed patients who use digoxin for any diagnosis and reported demographic features, symptoms on admission, indications for digoxin prescription, accompanying diseases, laboratory findings, creatinine clearance, electrocardiography findings, medications, and the blood digoxin levels.

Results: The most dramatic data of analysis was that even it is known that digoxin users are geriatric patients (our mean age 76.77 years) and mostly have comorbid diseases (43.47% of our patients have 3 accompanying diseases), all of the patients have polypharmacy and the prescribed drugs interact with digoxin. Most common second prescribed drug was ASA (ASA decrease the serum concentration of cardiac glycosides, %52.17 patients used ASA with digoxin). All patients with blood digoxin levels under therapeutic index used a drug interacting with digoxin (n=11). All the patients with blood digoxin levels above therapeutic index used a drug that increase the serum concentration of, or enhance the adverse/toxic effect of Cardiac Glycosides (n=4), and they denied misuse of the drug. Most of the digoxin-user-patients were dyspneic and had low effort capacity on admission (n=14, 60.86% of the patients), the blood digoxin levels of them were under therapeutic index.

Conclusion: Drugs with narrow therapeutic index should be used with caution and the elderly require more attention here. Physicians should pay attention to interactions of the drugs they prescribe.