Is there a place for using digoxin in older patients?

Sir,

In their article on the acute management of atrial fibrillation, Low et al state that digoxin is 'more suitable for the elderly' (vol 80(6), 2019, p.C82; https://doi.org/10.12968/hmed.2019.80.6.C82). Is this a valid statement or unjustified ageism? There are no high quality randomized controlled trials suggesting a benefit of digoxin over other rate-control agents in any age group. So presumably digoxin would only be chosen if it were a safer drug.

As the authors note, digoxin is renally excreted, has a narrow therapeutic window and interacts with a number of other drugs. Serum concentration can also become increased when muscle mass is reduced. Frail older people are most likely to be affected by renal impairment, polypharmacy and sarcopenia, and are the most likely to develop digoxin toxicity (Marik and Fromm, 1998; Pita-Fernández et al, 2011). This can occur with drug concentrations within the traditional 'therapeutic range', suggesting not only altered pharmacokinetics but also altered pharmacodynamics in older age (Miura et al, 2000).

Toxicity can present as visual disturbances, vomiting or cardiac arrhythmias, but also more subtly with non-specific signs like lethargy, anorexia and confusion. Evidence of digoxin toxicity is found in around 4% of people admitted to hospital while taking digoxin (Williamson et al, 1998). The true figure may be higher because of the lack of recognition of subtle signs or recognition of toxicity when drug levels are within the therapeutic range. Digoxin is a cause of delirium (Moore and O'Keeffe, 1999), probably as a result of its anticholinergic effects (Chew et al, 2008), and is associated with a higher risk of falls (Leipzig et al, 1999). In conclusion, frail older people are at most risk of harm from digoxin, so there is no valid reason to consider it a preferable drug.

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