

COMPARISON OF TWO TOOLS TO ASSESS RISK OF ADVERSE DRUG REACTIONS IN OLDER IN-PATIENTS

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BACKGROUND & AIM

Adverse drug reactions (ADRs) are common in hospital setting, especially in older patients. Both the **GerontoNet ADR risk score** and the **Brighton ADRs Risk (BADRI) model** are clinical tools which aim to identify those older patients at risk of developing an ADR during hospital stay.

The objective of this study was to evaluate and compare these ADR risk screening tools in terms of their ability **to predict ADRs in hospitalized older patients**.

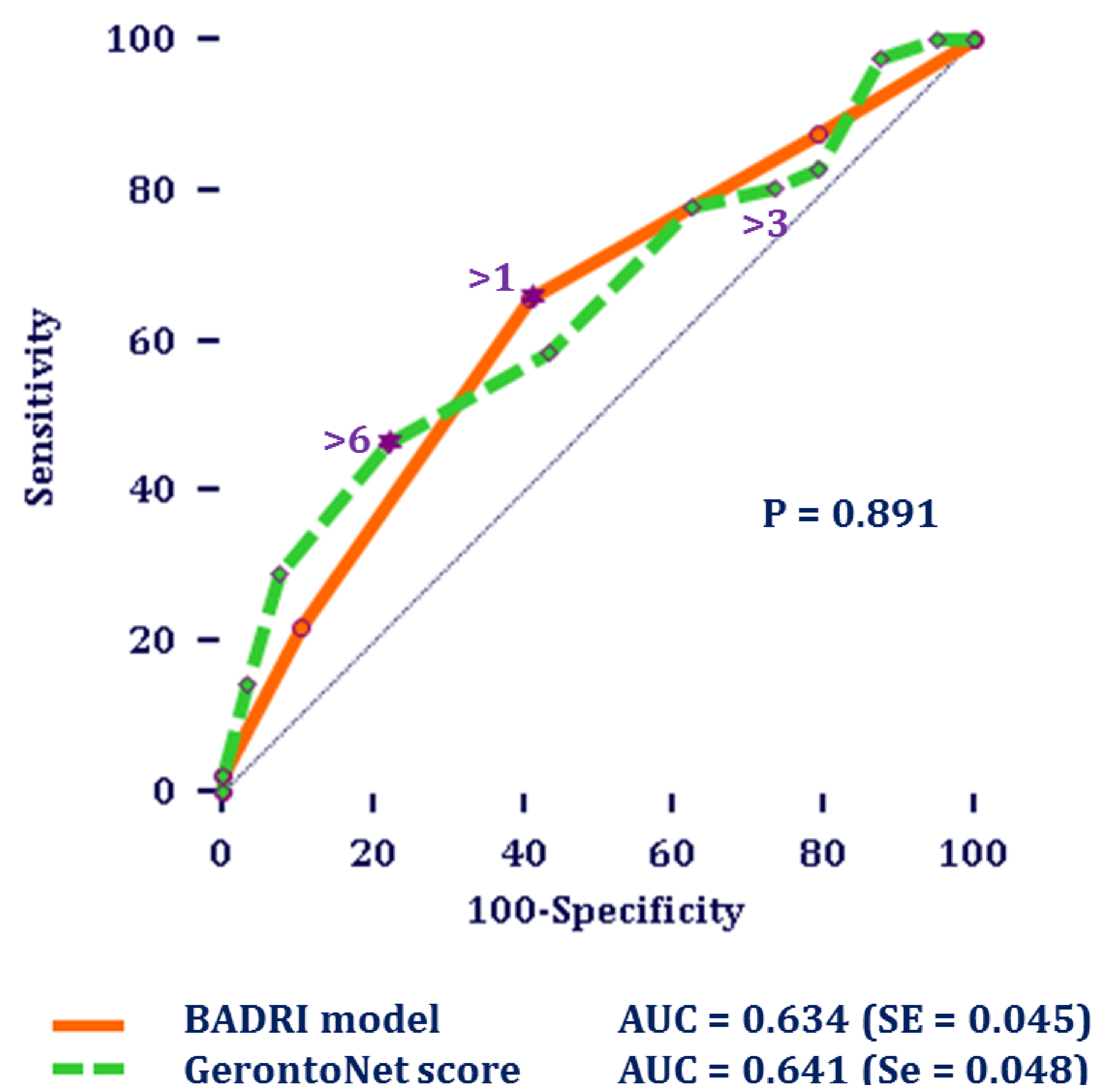
METHODS

- CRiteria to assess appropriate Medication use among Elderly complex patients (**CRIME**) project
- Older patients, consecutively admitted to geriatric and internal medicine acute care wards of seven Italian hospitals (N = 1123)
- The GerontoNet ADR risk score (range 0 – 10) includes variables on ≥ 4 comorbid conditions, heart failure, liver disease, number of drugs, previous ADR, and renal failure
- The BADRI model (range 0 – 5) includes variables on ≥ 8 drugs, hyperlipidemia, raised white cell count, use of anti-diabetic agents, and length of stay ≥ 12 days. A condensed BADRI score (range 0 – 4; without raised white cell count) was used
- ADRs with definite or probable causality with drug use (defined according to the **Naranjo** algorithm) were considered

RESULTS

- Complete assessment of the GerontoNet ADR Risk Score and condensed BADRI model was performed in **1075 older in-patients**
- Median age was 81.4 ± 7.4 years
- Overall, 41 patients (**3.8%**) experienced **at least one ADR** during hospital stay that was definitely or probably caused by drug use
- Both ADR risk screening tools had **low accuracy** scores for predicting ADRs and there was no significant difference in their discriminating performance (P = 0.891)
- Cut-off values >1 and >3 were recommended with development of the BADRI model and GerontoNet ADR Risk Score, respectively. Our Youden's Index was largest with **cut-off value >1** for the BADRI model (Se = 66%, Sp = 59%) and **>6** for the GerontoNet ADR Risk Score (Se = 46%, Sp = 78%)

Receiver-Operating Characteristics Curves for Discriminating Adverse Drug Reactions



CONCLUSIONS

Neither the GerontoNet ADR risk score, nor the BADRI model performs to a sufficiently high level of discrimination efficacy for ADRs.

Further research could determine additional ADR risk factors to extend and improve these ADR risk screening tools.