In conclusion, healthcare-associated listeriosis can develop in elderly patients, and the mortality of listeriosis among elderly remains high, especially in immunocompromised patients.

Disclosure statement

The authors declare no conflict of interest.

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Estimation of glomerular filtration rate among elderly patients

Dear Editor,

In the geriatric population, renal failure is one of the significant reasons of morbidity and mortality. Early detection and proper diagnostic classification are important. Using serum creatinine as a filtration marker is problematic; it is affected by other physiological processes, such as tubular secretion, generation and extra renal excretion. Other factors affecting creatinine generation are age, sex, race, diet and body habitus.[1]

For glomerular filtration rate estimation (eGFR), the Cockcroft–Gault equation, Modification of Diet in Renal Disease (MDRD) Study equation and Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) equation are frequently used in clinical practice.[2–4] These equations use serum creatinine value in combination with age, weight, sex or race to estimate GFR. In elderly patients, current equations might misclassify stages of chronic kidney disease, and this population is generally underrepresented in studies.[5]

Hence, the Berlin Initiative Study (BIS1-2) equations were developed as a novel estimator of GFR in these patients.[6,7] We wanted to evaluate the new equations and compare them with the current equations in our elderly patients. A total of 54 hospitalized patients aged 65 years and older (27 female, 27 male) were included in the study. Patients' hospitalization causes were chronic obstructive lung disease, congestive heart failure, ischemic heart disease, diabetes mellitus with glucose dysregulation, cerebrovascular diseases and uncontrolled hypertension. The study protocol was in accordance with the Declaration of Helsinki. The mean age was 74 ± 7 years. Patients' renal status was evaluated with CKD-Epi, MDRD and BIS1 formulas. For BIS1 evaluation, $BIS = 3736 \times creatinine^{-0.87} \times age^{-0.95}$ (×0.82 if female) equation was used. According to the CKD-Epi, MDRD and BIS1 equations, the mean GFR were detected as (19.53 ± 10.14) mL/min/1.73 m^2, (21.60 ± 10.84) mL/min/1.73 m^2 and (23.01 ± 0.69) mL/min/1.73 m^2, respectively. There was a significant direct correlation between CKD-Epi, MDRD scores and BIS1 equation results ($R = 0.965$, $P < 0.01$), ($R = 0.957$, $P < 0.01$).

The BIS equation was recently defined as a methodology to evaluate kidney function in the elderly.[6] Schaeffner *et al*. defined this methodology. In their study, the kidney function of 2000 patients aged 70 years and over was evaluated with classical MDRD and BIS equation. Although this study had some limitations, such as rather short follow up and supportive treatment necessity for kidney disease, it sustained a contributable and useful approach in this group of patients.[6] Based on this approach, two new estimation techniques were defined in 2012 – BIS1 and BIS2. In that cross-sectional study, 610 patients aged 70 years and over were evaluated and existing formulas were compared. Two equations was carried out, creatinine-based (BIS1) and creatinine and cystatin C based (BIS2). In that study, between creatinine-based equations, the BIS1 misclassification rate was stated to be lower than the CKD-Epi equation.

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These equations are considered acceptable in elderly patients with renal failure.[7]

In this study, we used the BIS1 equation, and despite small number of patients, we found a marked direct correlation between CKD-Epi, MDRD and BIS1 equation results. In elderly patients, evaluation and early intervention for kidney dysfunction is very important, and we believe this new equation is also reliable and acceptable for elderly patients.

All authors meet the criteria for authorship stated in the Uniform Requirements for Manuscripts Submitted to Biomedical Journals.

Disclosure statement

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COMMENTS

On the finding of *Taenia saginata* in a geriatric patient

Dear Editor,

In a letter to the Editor, Kalkan *et al*. describe how a 177-cm long tapeworm parasite was removed perorally from the stomach of an 80-year-old woman by means of endoscopy.[1] Based on its morphology, the tapeworm was diagnosed as *Taenia saginata*. The authors indicate that the source of infection was the ingestion of raw or undercooked beef infected with the tapeworm larvae, namely *Cysticercus bovis*. Concerning the symptomatology of *T. saginata* carriers, Kalkan *et al*. cite two bibliographic references, a book on Parasitology and an article on *Taenia saginata asiatica*.[2] Humans are definitive hosts of three species of the *Taenia* genus; that is, *Taenia solium* (the pork tapeworm), *T. saginata* (the beef tapeworm) and *T. asiatica* (syn *T. saginata asiatica*).[3] From a morphological point of view, it is practically impossible to distinguish *T. asiatica* from *T. saginata*. Currently, the only method to differentiate both species is by means of molecular analysis.[4] Therefore, based on the diagnostic method used in this case, the tapeworm removed could indeed be either *T. saginata* or *T. asiatica*. Although the symptomatology of the carriers of both species might be similar, the source of infection is absolutely different, as humans have to eat raw or undercooked pork to become infected with *T. asiatica* instead of eating beef, as in the case of *T. saginata* infection. Without the performance of molecular techniques, only in the case where the patient does not eat pork would it be possible to assess that the species involved is *T. saginata*.

The authors also emphasize the rarity of the finding of a tapeworm in the stomach, explaining that age-related hypochlorhydria is likely to be the cause. We agree with this appreciation and we would like to draw attention to a similar, although not geriatric, case from India.[5] A 630-cm long tapeworm (identified as *T. saginata*) was retrieved from the stomach through the nose of an 18-year-old girl by means of a nasogastric tube. The recurrent vomiting the patient suffered could probably have contributed to this unusual tapeworm location in the latter case.

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No potential conflicts of interest were disclosed.

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