



# Is there any association between declined creatinine clearance and higher endoxifen levels in older patients with non-metastatic breast cancer?

Kadri Altundag<sup>1</sup>

Received: 17 April 2023 / Accepted: 29 May 2023 / Published online: 17 June 2023

© The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature 2023

## Dear Editor,

I read with great interest the article by de Souwer et al. [1] in which they study the pharmacokinetics and -dynamics of tamoxifen in older women with non-metastatic breast cancer. According to their findings, older women receiving steady-state adjuvant tamoxifen treatment have higher serum concentrations of tamoxifen and its demethylated metabolites, such as endoxifen, than younger women. The authors put forth a number of theories to explain why older patients had higher endoxifen concentrations. There was a missing explanation. Endoxifen levels in older patients may also be higher as creatinine clearance gradually decreases with age and urinary elimination is a major route of endoxifen excretion [2]. This subject deserves more explanation.

**Supplementary Information** The online version contains supplementary material available at <https://doi.org/10.1007/s10549-023-07004-z>.

**Funding** No funding.

## Declarations

**Conflict of interest** We declare that I have no conflict of interest.

**Ethical approval** This article does not contain any studies with human participants or animals performed by any of the authors.

**Informed consent** Not applicable.

## References

1. Souwer ETD, Sanchez-Spitman A et al (2023 Apr) Tamoxifen pharmacokinetics and pharmacodynamics in older patients with non-metastatic breast cancer. *Breast Cancer Res Treat* 17. <https://doi.org/10.1007/s10549-023-06925-z> Epub ahead of print
2. Kisanga ER, Mellgren G, Lien EA (2005) Excretion of hydroxylated metabolites of tamoxifen in human bile and urine. *Anticancer Res* 25:4487–4492

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

---

✉ Kadri Altundag  
altundag66@yahoo.com

<sup>1</sup> MKA Breast Cancer Clinic, Tepe Prime, Cankaya, Ankara 06800, Turkey