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Letter to Editor Open Access

Comment on: Pomegranate Flower Extract Does Not Prevent Cisplatin-induced Nephrotoxicity in Female Rats

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DEAR EDITOR,

I read with interest a recently published article in the "International Journal Prevention Medicine" by Jilanchi *et al*., entitled "Pomegranate flower extract does not prevent cisplatin-induced nephrotoxicity in female rats."[1] The authors have concluded that administration of pomegranate flower extract not only did not ameliorate nephrotoxicity induced by cisplatin (CP) in female rats, but also aggravated renal damage.[1] Here, I would like to explain the potential mechanism may be related to this effect. Pomegranate contains phytoestrogens, which are protective nonsteroidal plant chemicals, some of which structurally resemble endogenous estrogens from humans and animals.[2] Phytoestrogens have estrogenic activity due to their structural resemblance to diethylstilbestrol, a synthetic estrogen.[3] A recent study demonstrated that fennel essential oil (FEO) has not protective role against CP-induced nephrotoxicity; they attributed that the major component of FEO is trans-anethole that has estrogenic activity.[4,5] The pharmacological doses of estrogen could abolish the nephroprotectant effect of some proven antioxidants which reduce the changes caused due to CP.[6] Moreover, estrogen is not a nephroprotectant in CP-induced nephrotoxicity in ovariectomized rats.[6] Furthermore, a recent study demonstrated that estrogen has a suppressive effect on erythropoietin induction, leading to the deceleration of erythropoiesis.[7] In addition, studies showed that estrogen increases oxidative stress in kidney[8] and promotes kidney toxicity in proximal tubules.[9] Finally, I suggest PEF contains phytoestrogens, which have estrogenic activity. Hence, PEF does not prevent CP-induced nephrotoxicity in female rats.

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REFERENCES

1. Jilanchi S, Nematbakhsh M, Mazaheri S, Talebi A, Zolfaghari B, Pezeshki Z, *et al.* Pomegranate flower extract does not prevent cisplatin-induced nephrotoxicity in female rats. Int J Prev Med 2014;5:1621-5.
2. Barrett J. Phytoestrogens. Friends or foes? Environ Health Perspect 1996;104:478-82.
3. Devi K, Vanithakumari G, Anusya S, Mekala N, Malini T, Elango V. Effect of *Foeniculum vulgare* seed extract on mammary glands and oviducts of ovariectomised rats. Anc Sci Life 1985;5:129-32.
4. He W, Huang B. A review of chemistry and bioactivities of a medicinal spice: *Foeniculum vulgare*. J Med Plants Res 2011;5:3595-600.
5. Mazaheri S, Nematbakhsh M, Bahadorani M, Pezeshki Z, Talebi A, Ghannadi AR, *et al.* Effects of fennel essential oil on cisplatin-induced nephrotoxicity in ovariectomized rats. Toxicol Int 2013;20:138-45.
6. Pezeshki Z, Nematbakhsh M, Mazaheri S, Eshraghi-Jazi F, Talebi A, Nasri H, *et al.* Estrogen abolishes protective effect of erythropoietin against cisplatin-induced nephrotoxicity in ovariectomized rats. ISRN Oncol 2012;2012:890310.
7. Horiguchi H, Oguma E, Sakamoto T, Murata K, Kayama F. Suppression of erythropoietin induction by diethylstilbestrol in rats. Arch Toxicol 2014;88:137-44.
8. Chirino YI, Pedraza-Chaverri J. Role of oxidative and nitrosative stress in cisplatin-induced nephrotoxicity. Exp Toxicol Pathol 2009;61:223-42.
9. Saleh S, Ain-Shoka AA, El-Demerdash E, Khalef MM. Protective effects of the angiotensin II receptor blocker losartan on cisplatin-induced kidney injury. Chemotherapy 2009;55:399-406.

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