

## *Teucrium polium*: Liver and kidney effects

Sir,

*Teucrium polium* (*Lamiaceae* family) is a wild-growing flowering herb, abundantly found in various regions such as Europe, North Africa and South-Western Asia.<sup>[1-3]</sup> *T. polium* has been used for different diseases such as diabetes, rheumatologic diseases, inflammation, and gastrointestinal disorders.<sup>[4-8]</sup> Indeed, herbal drugs are being increasingly used throughout the world. However, herbal medicines are not risk-free and many cases of nephrotoxicities, liver toxicities or other complications have been reported.<sup>[7-10]</sup> According to this background, various investigations have been conducted to confirm the effectiveness of *T. polium*. Recent studies have shown the antioxidant property of *T. polium*.<sup>[11]</sup> It was supposed that the presence of an ortho-dihydroxy substitution in the flavone B-ring is responsible for the antioxidant activity of this herb.<sup>[10,11]</sup> Recently, Forouzandeh *et al.* conducted a study to evaluate the hepatoprotective effect of *T. polium*.<sup>[11]</sup> In this preclinical investigation, they aimed to investigate the protective effect of *T. polium* extract on acetaminophen-induced hepatotoxicity in mice. They showed the protective effect of *T. polium* against acetaminophen-induced hepatotoxicity which was supported and confirmed by histological examination.<sup>[11]</sup> However, there are a few comments on protective efficacy of *T. polium*. To test the possible renal toxicity of hydroalcoholic extract of *T. polium*, we recently conducted a study on 100 male Wistar rats.<sup>[12]</sup> Rats were divided into 10 groups of ten each. Five groups were injected intra-peritoneally of 50, 100, 150, 200 mg/kg extracts or normal saline for 28 days and were killed to study the probable renal injury. Five other groups were injected the same drug regimen, but they were killed 28 days after cessation of drug injections to investigate the effect of possible complication or regeneration during recovery. Following 28 days of *T. polium* consumption (Phase I), kidney damages were not increased in comparison with the control group. However, following 28 days of drug cessation, renal injury including vacuolization, degeneration and destruction<sup>[13-18]</sup> appeared in comparison to control group. In this study, we concluded that *T. polium* may be associated with renal tubular damage and this herbal medicine should be used with caution.<sup>[12]</sup> It is well-understood that herbal medicines have an important role in the treatment of some disease;<sup>[13,14]</sup> however, some of the medicinal plant can be a common source of renal injury. The probable mechanisms of plant toxicity is not clear but pro-oxidant activity of some antioxidants

plants have been shown to produce oxidative stress and toxicity.<sup>[15-17]</sup> This toxicity inclines to be more common among certain patients and in specific clinical conditions. Thus, knowledge about successful prevention or amelioration of a medicinal drug requires information about pathogenic mechanisms of kidney damage and related risk factors.<sup>[1,8,18,19]</sup> In this regard, to better find the renal and liver effects of *T. polium*, more clinical or experimental studies are suggested.

### AUTHORS' CONTRIBUTION

All authors wrote the manuscript equally.

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