



ELSEVIER

Clinical Biochemistry 35 (2002) 179–180
Letter to the Editor

CLINICAL
BIOCHEMISTRY

Regarding “The toxicity of *Callilepis laureola*, a South African traditional herbal medicine.”

Dear Sir,

We refer to the article by Popat et al elucidating the probable primary mechanism of toxicity of *Callilepis laureola* through the use of human hepatoblastoma Hep G2 cells *in vitro*.

We agree that the ‘clinically important implications for treatment interventions and the development of antidotes’ [1] mentioned in the conclusion emphasises the necessity for and value of research of this nature.

We would, however, like to bring to your readers’ attention the changing pattern noted in deaths due to traditional medicine poisonings in the last twenty years at Ga-Rankuwa Hospital [2]. In assessing these data it is more helpful to use absolute numbers than percentages. Our results show that these deaths have decreased from an average of 6 per year (1981–1985) to an average of 1 per year (1996–2000). In 2001 two deaths were reported in the last quarter of the year.

We would also like to point out that the quoted estimate of 10,000 to 20,000 deaths per year in the article by Popat et al. [1] comes from a presentation made to the South African Medicines Control Council [3]. There is no evidence that this presentation was peer-reviewed at the time. The estimated number of deaths appears to have been based on conjecture rather than through the use of a validated

epidemiological method. At this stage it is unlikely that any accurate figures can be provided for the mortality due to traditional medicines poisonings in South Africa – for many of the reasons outlined in the article by Popat et al. [1].

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Response to the Letter

Dear Sir,

We appreciate the letter written by Prof. Du Plooy and Dr. Jobson regarding our article “The toxicity of *Callilepis laureola*, Impila (in Zulu), a South African traditional herbal medicine” [1] acknowledging our efforts in studying the poisoning effect of traditional African medicines. We are glad that the authors recognize the necessity of the research on the toxicological aspects of herbal medicine.

The aims of our previous work were two fold: to review the literature on *Callilepis laureola* and to assess the toxicity of the plant in a hepatoblastoma cell line, e.g., HepG2 cell line. We reviewed the literature accessible at that time on the toxicity of *Impila*. Unfortunately the article published by Du Plooy et al. [2] appeared after our article was published so we were unable to consider it for review. It is true

that Thompson’s report [3] to the South African Medicine Control Council was not peer-reviewed. We noticed with interest however, that despite criticism, the report remains un-rebutted, two years after its release.

In addition we reported preliminary results showing a concentration- and time-dependent cytotoxic effect of an aqueous extract of *Impila* in Hep G2 cells *in vitro*. The paper concluded: “*C. laureola* causes significant cytotoxicity in Hep G2 cells *in vitro*. These findings are in accordance with the observed hepatotoxicity in clinical cases of *C. laureola* poisoning.”

Indeed, one should exercise caution in extrapolating from data obtained in an *in vitro* model to *in vivo* conditions. Our article presents findings that may be considered as acute intervention as opposed to most *in vivo* results in which a

daily acute injury is superimposed on a chronic injury produced by a disease. This work contributes to the understanding of the pathogenesis of *Impila*-induced liver damage. The article presents human-derived cells as a model to reproduce some of the biochemical changes that may be encountered in serum samples obtained from patients with *Impila* poisoning.

To look directly at the criticism that the letter is making we have to remember that *Callilepis laureola* is widely used as a traditional herbal medicine in South Africa. Numerous cases of fatal poisoning due to the ingestion of *Impila* have been documented [4–6]. It is however, encouraging that deaths from herbal poisonings have decreased in at least one hospital in recent years (2).

We stress that the report of DuPlooy and Jobson monitors fatalities caused by herbal medicine in one hospital in a region of South Africa with low *Impila* usage and may not be immediately extrapolated to a general observation for the rest of South Africa as applied to *Impila*. In addition, consideration should be given to the fact that the majority of the people who receive *Impila* simply cannot or choose not to enjoy the relative luxury of hospitalization, and would be missed by a hospital-based survey.

In conclusion, we have to stress that our work was not an epidemiological study. Our objective was not to evaluate exactly how many lives are lost to *Impila* or herbal remedies ingestion but to study the pathophysiology behind the toxicity. We believe that even one life unnecessarily taken by the irresponsible use of herbal medicine is too much.

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