Clinical side effects after oral administration of palm oil and *Alchornea cordifolia* decoction in a child

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**Abstract**

*Alchornea cordifolia* is known to be a plant with a variety of medicinal properties and is quoted by many traditional healers to treat a variety of medicinal problems in the Democratic Republic of Congo. However, very little is known about its potential toxicity. We report the case of a 9-year-old boy referred for assessment of suspected bronchial troubles without a history of atopic disease or drug allergy who developed dyspnea, dysphagia, asthenia and lingual ulcers within 30 minutes after nasal and oral administration of decoction of palm oil associated with *A. cordifolia* leaves in water. In the present report, adverse effects of *A. cordifolia* therapy may be related to the mixtures of active compounds that they contain and can cause the symptoms observed in our patient. These findings call for caution in the use of *A. cordifolia* especially in children.

**Introduction**

*Alchornea cordifolia* belongs to the family *Euphorbiaceae*, grows as a shrub or small tree and is distributed throughout tropical Africa in secondary forests, usually near water or marshy places. *A. cordifolia* have been used for centuries by many traditional healers to treat a variety of medicinal problems in the tropics area.1 In central Africa, gastrointestinal disorders, rheumatism, toothache, wound, fever symptoms, cough and various pain are treated by this herb.2 However, despite the widespread traditional use of *A. cordifolia* in tropical countries, little is known regarding potential toxicity of plants belonging to the *Euphorbiaceae* family such as *A. cordifolia* in human beings. A case of a child seen in our institution (University Hospital of Kinshasa, Kinshasa, Democratic Republic of Congo) necessitated a literature review and a report.

**Case Report**

A 9-year-old boy was referred for assessment of suspected bronchial troubles. The history of present illness dates back about 24 hours characterized by rapid onset of dyspnea, dysphagia, and asthenia within 30 minutes after nasal and oral administration of decoction of palm oil associated with *A. cordifolia* leaves in water. In the present report, adverse effects of *A. cordifolia* therapy may be related to the mixtures of active compounds that they contain and can cause the symptoms observed in our patient. These findings call for caution in the use of *A. cordifolia* especially in children.
application/day/7days), baking soda (2×1 application/day/5 days) and Xylocaïne gel (2×1 application/day/7 days). All symptoms and signs disappeared after the treatment.

Discussion and Conclusions

In Democratic Republic of Congo and especially in Kinshasa region, A. cordifolia is known to be a plant with a variety of medicinal properties, and is quoted by many Congolese traditional healers for his rich medicinal value, mainly due to its anti diarrheal agents, antibacterial, anti amoebic, analgesic and antispasmodic properties, antiprotozoal activity against Trypanosoma brucei brucei, antiplasmodial activity against Plasmodium falciparum, febrile convulsions, local treatment of ulcers, rheumatic pains.2 The ethanol extract and chebulagic acid of the A. cordifolia contained bioactive ingredients showing the properties to inhibit the growth of common pathogens, antiprotozoal activities, and anti-inflammatory properties in Central African studies.2-4 All these properties could explain some of the therapeutic benefits attributed to the plant in traditional medicine, in our midst.

Many medicinal herbs and pharmaceutical drugs are therapeutic at one dose and toxic at another. In Kinshasa, traditional herbal remedies are still frequently used by oral administration or local treatment. However, little is known regarding the adverse effects of A. cordifolia and any case of intoxication could be found with the use of available computer-assisted medical literature search programs. In a previous study, the effect of oral administration of the methanol extract showed that A. cordifolia leaves has toxic potential at high dose on hepatic and renal functions.5 Most reports concerning phytochemical screening of A. cordifolia extracts revealed the presence of tannins, phenols, flavonoid, alkaloids and saponins.6 Accidental herbal toxicity occurs not only as a result of a lack of pharmaceutical quality control in harvesting and preparation, but also because herbal remedies are believed to be harmless. Each practitioner has his own methods of preparation, following the cause of disease, his parent or ethnic’s tradition in Democratic Republic of Congo.7

In the present report, adverse effects of A. cordifolia therapy may be related to the mixtures of active compounds that they contain and can cause the symptoms observed in our patient. However, clinical features due to A. cordifolia therapy are rarely reported in human to compare clinical and laboratories features. The assumption that herbal medicines are safe is these assertions are contradicted by recent clinical trials in mice.5,9 For this reason, clinical toxicity to A. cordifolia should be taken into consideration in follow-up and diet education. These findings call for caution in the use of A. cordifolia, especially in children.

References