OP – 08

Epidemiological, clinical and subclinical characteristics of lead poisoning in children using traditional medicine

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Objectives: To describe the causes and characteristics of lead poisoning from "cam drug" ("cam drug" is the folk name of a traditional medicine) which is often used to treat diseases in young children like thrush tongue, mouth ulcers, constipation, anorexia, and malnutrition.

Methods: 133 children exposed to lead from a traditional medicine had a blood lead level (BLL) > 20 µg/dL and presented with clinical symptoms of lead poisoning or BLL didn't reduce after stopping exposure for at least 2 months. "Cam drug" samples were provided by the parent. Lead concentration in cam drug sample and in patient's serum and urine were measured by atomic absorption spectrometry (AAS 3300-Atomic absorption spectrometer). History and other research parameters were collected at the time of admission by psychiatrists and the toxicologist.

Results: Lead poisoning of children from "Cam drug" had the following characteristics: *Epidemiology*: 94% of patients were under 6 years old, coming from 16 provinces in northern Vietnam. The reasons for using "Cam drug" included: thrush on tongue (70.7%), ulcer on oral mucosa (16.5%), and anorexia (9%). There were 91 "Cam drug" samples taken from the parents of patients with lead poisoning. Lead content in "Cam drug" was very high, ranging from 2.51% to 85.76%. The form of lead was identified as Pb3O4. Method of usage included smearing "Cam drug" on tongue and oral mucosa (56.4%), ingestion (18%), and both (25,6%). *Clinical features*: There were 4 distinct syndromes observed: (1) acute encephalitis syndrome (18.8%) including: coma, seizures, weakness and strabismus; (2) gastrointestinal disorders (42.1%) including vomiting, anorexia, constipation; (3) the retardation syndrome (61.7%): including intellectual and physical retardation; (4) anemia syndrome (47.4%). *Laboratory*: Infants suffering lead poisoning from "cam drug" had an average BLL of 63.2±28.83 µg/dL (20.35-198.32). In Children with severely elevated BLL i.e. ≥70 µg/dL accounted for 29.3%, average 42.9% and mild accounted for 27.8%. 40% of children had iron deficiency with a mean serum iron of 6.2 µmol/L, and 47.4% were anemic with an average Hb of 95.7 g/L.

Conclusion: Lead poisoning from "cam drug" is a severe, complex, widespread disease which seriously affects the physical and mental development of young children and needs to be detected and treated promptly.