Circumstances of lethal Mediterranean thistle, *Atractylis gummifera*, poisonings: experience of the Algiers Poison Centre

Alamir B. 1, Abtroun R. 1, de Haro L. 2
1- Poison Centre, Algiers, Algeria. 2- Poison and Toxicovigilance Centre, Marseille, France.

**Introduction**

The Mediterranean thistle, *Atractylis gummifera*, is considered as one of the most dangerous plants (1, 2) due to the production of diterpenoid glucosides (atractyloside and gummiferin) which inhibit mitochondrial oxidative phosphorylation. This species is the cause of rare poisonings in Italy, Spain and Greece (3). However, *Atractylis gummifera* is responsible for numerous human deaths every year in the entire Maghreb region of Northwest Africa (1, 2) where this plant is considered to be a major threat to rural populations. The aim of the present Algerian case reports is to illustrate the various circumstances leading to life-threatening situations after contact with this plant.

**Results**

**Observation 1**, a woman aged 40 years with a previous history of psychiatric disorders was treated by her family with herbal tea (Southeastern Algeria). *Atractylis* roots were added to the herb mix in order to avoid the evil eye. After 5 days of this new treatment she complained of vomiting and coma and was transferred to hospital where examination showed hypoglycemia, renal and hepatic failure. She died a few hours after, despite hemodialysis treatment.

**Observation 2**, in rural Algeria, a 2 year old girl with a second degree burn on her buttock was treated by her grandmother with a poultice of several plants including *Atractylis* roots. Symptoms appeared in a few hours: vomiting, agitation, seizure and coma. She died as soon as she arrived at hospital (hypoglycemia, renal and hepatic failure).

**Observation 3**, three brothers aged 9, 10 and 12 years, ate thistles due to misidentification with wild artichokes. In about 3 hours, vomiting, hypoglycemia and seizures were reported and they all died 15 to 28 hours after the meal.

**Conclusion**

The Mediterranean thistle can cause severe poisoning in few hours after ingestion or skin contact with digestive features, hypoglycemia and renal/hepatic failure leading to rapid death. This plant must be excluded from local traditional herbal usage but it is often difficult to eliminate popular beliefs.

**References:**
1 - Larabi IA, Azzouz M, Abtroun R, Reggabi M, Alamir B. Determinations of levels of atractyloside in the roots of *Atractylis gummifera* collected from six different areas of Algeria. *Ann Toxicol Anal* 2012; 24(2):81-86.