

## Convulsion in infants as a result of oral use of garden sage

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### Summary

*Salvia officinalis* is a plant known as Garden Sage and it is used by the community in case of various clinical conditions. Herbalists are the right destinations to provide this special plant. *Salvia officinalis* is known to be used for its diuretic, anti-inflammatory, antimicrobial, antiseptic, expectorant, spasmolytic and diaphoretic effects. In this case study, a case of intoxication in which a 2-month old infant who presented with convulsion due to accidental oral use of garden sage oil which was actually prepared for topical use by a herbalist is reported. (*Turk Arch Ped* 2012; 47: 70-1)

**Key words:** Garden sage oil, convulsion, intoxication.

### Introduction

It has been reported that use of herbal drugs and “alternative” medicine techniques has become widespread in the last 20-25 years and even departments are being instituted in some universities and side effects and complications related to these methods have increased. Although fennel, chamomile and aniseed teas are most commonly used as carminative in newborns and infants, they can also be used for constipation, for increasing breastmilk and against infections (1). These plants are usually used orally, but they can also be applied to body surfaces and used topically. Generally, no side effect is observed at normal doses. However, intoxication cases have been reported at high doses or as a result of oral use of special forms prepared for topical use (1).

In our case, drop forms were used for a period to provide elimination of abdominal distension, flatulence and crying spells in an infant, but the infant did not calm down and as a result of inadvertent oral use of high dose of *salvia officinalis* prepared by a herbalist instead of topical use convulsion developed.

### Case

A two-month old female infant was presented to the emergency department with complaints of continuous crying, restlessness which started suddenly, contraction in the hand and arms, tremor in the eyes, vomiting and cyanosis. The history revealed that the infant was born by cesarean section at term with a birth weight of 3240 g, a height of 49 cm and a head circumference of 34 cm from the first pregnancy of a 22 year-old-mother and a 24 year-old-father, pre-natal and post-natal history was natural and the infant was given inadvertently a dessert spoon of garden sage oil prepared specially by a herbalist as a carminative and pain killer to be applied on the abdominal region by massaging approximately 2 hours before presentation.

Physical examination findings were as follows: rectal fever: 37 °C, heart rate: 136/min, rhythmical, respiratory rate: 55/min, weight: 4300 g (25-50%), height 53 cm (25-50%), head circumference 38 cm (25-50%). The patient had minimal respiratory distress. Deep tendon reflexes were increased, Achilles clonus and jaw clonus were present, opistotonus and

nistagmus in the eyes were present. At presentation to the emergency department, the patient had tonic-clonic convulsion in the hands and arms.

Laboratory findings were as follows: leukocyte count: 12 500/mm<sup>3</sup>, hemoglobin: 14 g/dL, hematocrite :42%, platelets: 420 000/mm<sup>3</sup>. Blood glucose: 112 mg/dL, sodium: 136mEq/L, potassium: 3,7 mEq/L, ionized calcium: 4,65 mmol/L, AST: 47 IU/L, ALT: 25 IU/L, CRP:0,6 mg/dL, blood gases: normal.

The infant's oral way was kept open, appropriate position was given, 4 L/min oxygen was given, intravenous access was opened and intravenous fluid was given. A loading dose of 10 mg/kg phenobarbital was administered and the convulsion was stopped. After the history was taken intoxication consultancy center was called and forensic report was written. Gastric lavage was performed and active charcoal was administered. The patient was hospitalized and monitored. Deep tendon reflexes became normal and clonus disappeared 12 hours after hospitalization. Opisthotonus and hypertonicity decreased completely. The patient improved completely after 24 hours. Oral intake increased, convulsion did not recur and phenobarbital maintenance dose was not needed. With intoxication consultancy information the patient was discharged 48 hours later to come back for follow-up. Sleep encephalography performed during the follow-up revealed no problem and convulsion was not reported.

## Discussion

Garden sage oil which is obtained by distilling garden sage leaves contains salvene, pinene, camphor, cineole, borneol, thujone, sponin, diterpene, phenolic acid, salviatanin, ursolic acid, caffeic acid and flavonoids (1-3).

Garden sage (*salvia officinalis*) is used as a herbal drug in various clinical conditions including coronary heart diseases, chronic bronchitis, asthma, chronic renal failure, cirrhosis, dysmenorrhea, insomnia, infantile colic, dyspepsia and Alzheimer disease with its sedative, antiinflammatory, antimicrobial, spasmolytic, antioxidant, antitumor, antihypertensive, diuretic, diaphoretic and antiseptic features (1,2,4).

In our country, the most commonly used herbal drugs during infancy include fennel, chamomile and aniseed teas and almond oil which are used in conditions like constipation and infantile colic. While apnea, central nervous system depression, vomiting and diarrhea are found in the intoxication pictures of these commonly used herbal drugs (1,5,6), symptoms related to the stimulation of the central nervous system including opisthotonus, increase in deep tendon reflexes and convulsion occurred in our case.

It has been reported that garden sage oil which is obtained by distilling garden sage contains thujone, camphor and cineole. These substances are epileptogenic and caused intoxication pictures characterized by convulsion at much lower doses compared to other herbal drugs in an investigational study (7). The fact that inadvertent oral intake of a dessert spoon of garden sage caused intoxication with convulsion during infancy in our case seems to be compatible with the investigational study mentioned.

Conclusively, acute intoxication related to herbal drugs should be interrogated in the etiology in convulsions of unknown etiology during early infancy and it should be kept in mind that convulsion and marked hyperexcitation characterized by hypertonicity may occur related to inadvertent oral intake of garden sage instead of topical use.

## References

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