

Red Poppy (Papaver Rhoëas) Poisoning: A Report of Three Cases

Sedat Koçak¹, Keziban Karabulut², Birsen Ertekin³, Himmet Nak¹, Başar Cander¹

¹Department of Emergency Medicine, Necmettin Erbakan University Meram School of Medicine, Konya, Turkey

²Department of Emergency Medicine, Başkent University School of Medicine, Konya, Turkey

³Department of Emergency Medicine, Beyhekim State Hospital, Konya, Turkey

Red poppy (RP) is a plant that can be widely found in our country. It is known as a medicinal plant among the people. Three cases in which central nervous system (CNS) symptoms developed after eating RP have been presented. Case 1: A 29-year-old female patient was admitted to our clinic with complaints of nausea, vomiting, and convulsions after approximately 1.5–2 h of eating RP. She was apathetic and non-cooperative, and the vital findings were in normal ranges. Pin-point pupils were noted. The patient had tonic seizure once. Case 2: A 9-year-old female patient, daughter of case 1, was brought with her mother with complaints of spasm of the jaw, altered mental status, and convulsion. Agitations started 1 h later after admission. She experienced a generalized tonic-clonic seizure that continued for 5 min. Case 3: A 70-year-old female patient was brought to our clinic with mental status changes 1 hour after she had ingested RP. She was lethargic, disoriented, non-cooperative, and the pupils were miotic. An unconscious consumption of weasel grass causes negative effects, particularly effects on CNS. Because generalized seizure was only observed in the child, it was suggested that children experience more effects. The mental status of these patients was restored within approximately 6 h, and they were discharged. Mortality or morbidity was not observed in these cases. Nevertheless, this does not indicate that it would not cause worse clinical results. To prevent the ignorant consumption of RP and similar weeds, educational and informational activities must be conducted at the public level.

Keywords: Red poppy, seizure, emergency medicine, intoxication

INTRODUCTION

“Herbal treatments” are no longer solely used in developing countries; they are also becoming important in developed countries. In the year 1990, herbal medications comprised 3% of the drug market, and this market was worth 2.4 million dollars. The annual growth of this market was reported to be 1.5%. Herbal medicines are used for different reasons with different priorities in various countries. However, they are generally used to treat stomach diseases, kidney and urinary tract diseases, lung diseases, and coughs, and they are also used as narcotics or sedatives (1). Besides beneficial herbs, many harmful plants also grow in our country.

The poppy (Rp) belongs to the poppy family (Papaver rhoëas) and is accepted by the public as a healing herb. As it sets an example for the dangers of consuming wild weeds, we aimed to present three cases in which side effects developed in the central nervous system (CNS) after ingesting poppy weeds.

CASE PRESENTATION

Case 1

A 29-year-old female patient presented to our emergency service with nausea, vomiting, and an altered mental status approximately 90 min after eating the poppy weed which she had gathered from a garden for dinner. The physical examination was unremarkable. Intravenous fluid therapy was administered. She became agitated 25 min after admission to the ED, and 10 mg of diazepam (DEVA Holding Company; İstanbul, Turkey) was administered intravenously. Computed tomography (CT) scans and laboratory examinations revealed no findings. Following the recommendation of the neurology clinic, the patient was transferred to the emergency intensive care unit for observation of the pupils, the mental status, and the development of seizures. Only intravenous fluid (NaCl 0.9%) (Eczacıbaşı-Baxter Company; İstanbul, Turkey) was administered to the patient during the observation period. Her pupils turned back to normal, and she regained her consciousness within approximately 6 h. The patient’s complaints disappeared, and she was hemodynamically stable and was discharged 24 h later with normal vital signs. Patient consent form were taken from her relatives.

Case 2

A 9-year-old girl was brought to the pediatric emergency service with a headache, dizziness, locked jaw, and contractions that had lasted for approximately 15 min. She was the daughter of Case 1, and she had consumed the poppy weed with

This study was presented as a poster at the International Symposium on Emergency Medicine, 13–15 April 2012, Baku, Azerbaijan.

Correspondence Author:

Birsen Ertekin E-mail: biceacil@hotmail.com

Received: 15.01.2016

Accepted: 14.04.2016

©Copyright 2016 by Cyprus Turkish Medical Association - Available online at www.cypriusjmedsci.com

her mother. At admission, the patient's physical examination, her mental status, and other system findings were normal, and her pupils were miotic. Intravenous fluid therapy was administered. Following the recommendation of the Drug and Poison Information Center consultant, gastric lavage was performed and active charcoal (1 g/kg) (Orfoz Health Care Company; Ankara, Turkey) was administered. One hour into her observation, she became agitated and had a generalized tonic-clonic seizure that lasted for 5 min. Diazepam (10 mg) was administered intravenously, and she was admitted to the pediatric intensive care unit for observation of the pupils, mental status, and development of seizures. No focal or generalized seizure was observed during the follow-up period of the patient in the emergency observation unit. The patient's vital signs and repeated systemic examination findings were stable, and she was discharged 24 h later. Patient consent form were taken from her relatives.

Case 3

A 70-year-old female patient was brought to the emergency service with clouded consciousness 1 h after she had ingested poppy weed, believing that it would stop her cough. She was lethargic, disoriented, and non-cooperative, and her pupils were miotic. No lateralizing neurological symptoms were present. The physical examination was normal. After the recommendations of the Drug and Poison Information Center consultant were considered, gastric lavage was performed and active charcoal (1 g/kg) was administered. The brain CT and biochemical parameters were normal. She was transferred to an intensive care unit for the intravenous fluid therapy and observation. The patient regained her consciousness within approximately 6 h. The patient's vital signs were stable during the 24-h observation period, and she was discharged after recovery. Patient consent form were taken from her relatives.

DISCUSSION

Many plants cause potentially lethal local and systemic side effects (2). Exposure to toxic plants is the fourth most common cause of poisoning in the United States of America (USA). The hospitalization rate for toxic plant exposure is 0.04%, and death is very rare (0.001%). The incidence of plant poisoning has been reported as 6% in our country, and it is mostly common in children between the ages of 2 and 11 years who live in suburban areas. Adults may also suffer poisoning after accidentally ingesting poisonous plants. Because the amount ingested is higher in these cases, the poisoning is more severe. Abusive use of plants for their euphoric effects may also lead to toxic clinical conditions. It has been reported that there are approximately 20 types of poisonous plants in our country (3).

The poppy weed grows nearly everywhere in the world, usually in crop fields, pastures, lawns, and roadsides. It is believed that it was first seen in Turkey or Bulgaria, and it is known that it was used by ancient Egyptians, Greeks, and Romans. The leaves are segmented, the flowers are red, and the deep portions of the petals may or may not have black spots (Figure 1). It is a common species in Anatolia and contains alkaloids. The portions of the weed above the soil and the fruit capsules contain rhoeadin alkaloid and small amounts of morphine (4). The flower petals are gathered in the flowering season (May–June). It is commonly used to treat asthma, to lower cholesterol levels, and as to provide relief from cough. Pedanius Dioscorides mentioned

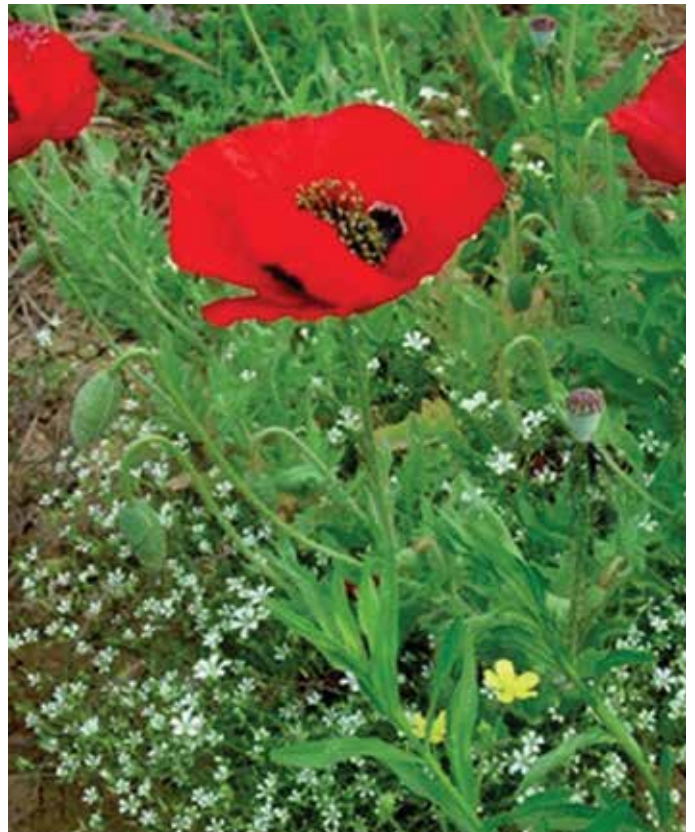


FIGURE 1. *Papaver rhoeas* (poppy weed)

that poppy seeds have sedative features when consumed with wine. The leaves are used with the flower heads against infections (5). It has a narcotic and mild sedative effect. It is used as a soother for the common cold and cough (6).

The most common poppy species seen in meadows and fields is *P. rhoeas* L. It is poisonous to animals. The poppy is not poisonous until it flowers. Its harmful effects are caused by rhoeadin alkaloid. Alkaloids are one of the most common toxic agents that plants contain and are more soluble in organic solvents than they are in water. They are plant alkaloids that have physiological effects on the metabolism of living things, they usually have complex chemical structures, and they have a ring formation and contain nitrogen. Alkaloid consumption can lead to disorders of the CNS or liver and may cause sudden death (7). Oral consumption may cause symptoms such as vomiting, nausea, fatigue, and exhaustion. The alkaloids in wild weeds may cause various symptoms and side effects. These effects can be life-threatening (8). Our cases manifested side effects of the CNS. The fact that the child patient had a seizure suggests that younger patients are more sensitive; therefore, caution is warranted.

Most plant poisonings do not have specific antidotes. They are generally treated symptomatically. Most poisonings are mild, and IV hydration and simple decontamination methods provide relief to the patients. Asymptomatic patients can be discharged after 6–8 h of observation (3). We monitored our patients, performed gastric lavage, and delivered active charcoal and fluids. The symptoms disappeared approximately 6 h later, and all of our patients were discharged after being observed for 24 h.

In conclusions, our country has a very rich flora. In many of its regions, locals gather herbs and use them for treatment. Therefore, it is important to recognize the plants toxic to humans, to know their characteristics, and to raise public awareness on this issue. It must not be forgotten that the differential diagnosis of patients brought to the emergency service with altered mental status or neurological symptoms may also include poisonings. Otherwise, the diagnosis and treatment of the condition may be delayed.

Informed Consent: Written informed consent was obtained from patients who participated in this study.

Peer-review: Externally peer-reviewed.

Author contributions: Concept - S.K., K.K.; Design - B.E., B.C.; Supervision - S.K., H.N.; Resource - K.K., B.C.; Materials - B.E., H.N.; Data Collection &/or Processing - B.C., H.N.; Analysis &/or Interpretation - B.E., K.K.; Literature Search - S.K., K.K.; Writing - S.K., B.E.; Critical Reviews - B.C., H.N.

Acknowledgements: The authors thank all the Assistant Professor Dr. Hasan Kara due to his contribution.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study has received no financial support.

REFERENCES

1. Anonymous. Anadolu University Medical Information Research Center Medical and Aromatic Plants Bulletin 1995; 11.
2. Raman SV, Jacob J. Mydriasis due to *Datura innoxia*. *Emerg Med J* 2005; 22: 310-1. [\[CrossRef\]](#)
3. Satar S, editor 2009. *Emergency Clinical Toxicology*. Nobel Medical Publishing, Adana, p. 745.
4. Baytop T, 1984. *Herbal Treatments in Turkey, the Past and Present*. İstanbul University Publishing. No: 3255. Pharmacy Fac. No. 40 İstanbul, p. 520.
5. Gunther RT, editor 1968. *The Greek Herbal of Dioscorides*. London and New York: Hafner Publishing Company.
6. Asimgil A, 1996. *Therapeutic Plants*. Timaş Publishing. 176. 2nd Edition. p. 121.
7. Baydar H. 2013. *The Science and Technology of Medical and Aromatic Plants (Extended 4th edition)*. Süleyman Demirel University Publishing No: 51 (ISBN: 975-7929-79-4).
8. Töngel MÖ, Ayan İlknur. Some detrimental plants growing in rangeland and meadows of samsun province and their effects on livestock. *J of Fac of Agric OMU* 2005; 20: 84-93.