

Trend of colchicine exposures reported to the Poisons Information Centre Erfurt

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Objective

The Poisons Information Centre (PIC) Erfurt observed gradually increasing numbers of exposures to *Colchicum autumnale* since 2005, whereas the number of exposures to various colchicine containing drugs was relatively consistent (Fig. 1). We evaluated the causes and risks of these cases.

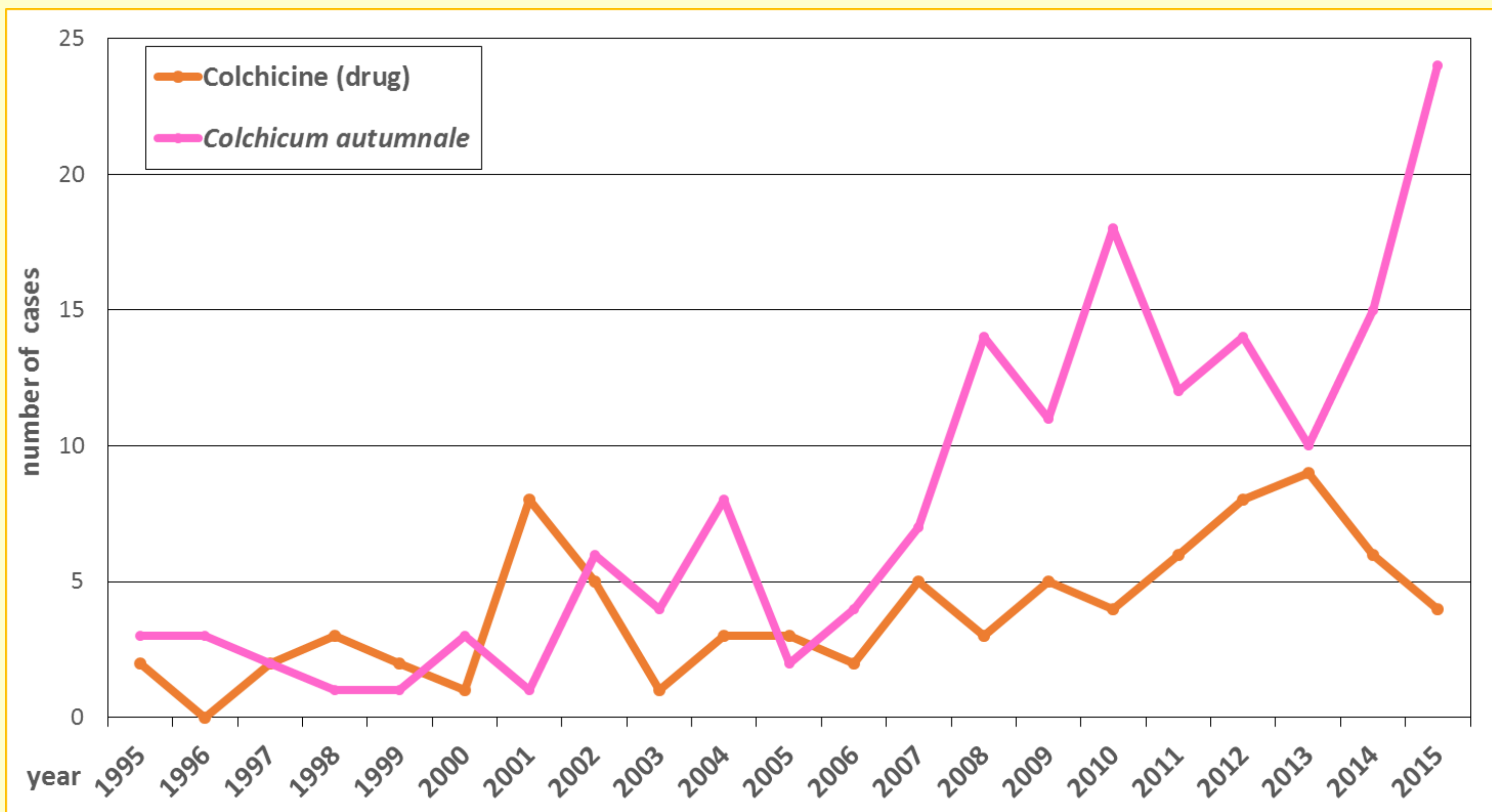


Figure 1 – Colchicine exposures reported to the PIC Erfurt (1995 to 2015)

Case series

Between October 1994 and October 2015, a total of 210 exposures to colchicine were reported; hereof 139 cases of exposure to *Colchicum autumnale* (in 55 cases uncertain) and 71 cases of (certain) exposure to various colchicine containing drugs.

Of all 155 certain exposures, 31 cases (20 %) were suicide attempts, 80 cases (51.6 %) were accidental ingestions – about two-thirds of those by children (51 cases); both of the drug (9 cases) and of the leaves of *Colchicum autumnale* (42 cases) due to confusion with *Allium ursinum* (wild garlic). In 5 cases (3.2 %) adverse events at therapeutic doses had occurred. Medication errors were observed in 38 cases (24.5 %), in which prolonged application of a therapeutic dose often resulted in at least gastrointestinal symptoms, but no fatality.

Case report

A 71 year-old female with Parkinson's disease developed prolonged gastrointestinal symptoms (vomiting, diarrhoea) as well as mildly elevated liver enzymes after the ingestion of three “leaf tips” of *Colchicum autumnale* in a suicide attempt. She reported to hospital the next day (approx. 24 hours after ingestion) and gastrointestinal decontamination was not recommended. The patient was in intensive care for 4 days receiving IV fluids and PPI, and could subsequently be transferred to a psychiatric ward.

Case report

A 58 year-old male ingested 3 mg of colchicine per day over a period of 3 weeks and then reported to hospital with abdominal pain, diarrhoea, mild thrombocytopenia and elevated liver enzymes. Observation in hospital was recommended, however the further course is unknown.

Case report

An 89 year-old male with chronic pain syndrome and depression due to rheumatoid arthritis developed severe symptoms (gastrointestinal bleeding, dyspnoea, hypertension, first-degree atrioventricular block, lactic acidosis) resulting in multiple organ failure and death within 24 hours following the ingestion of ca. 100 ml Colchysat® (= 50 mg colchicine) in a suicide attempt. He was admitted to the hospital not before 12 hours after ingestion. Treatment was merely supportive, ECMO was not attempted.

Toxicity of colchicine

The main therapeutic and toxic effects of colchicine are due to it being a potent inhibitor of microtubule formation and function, thereby interfering with cellular mitosis, among other intracellular mechanisms. Therapeutically, colchicine is used as an anti-inflammatory drug in acute attacks of gout, as well as in cases of familial Mediterranean fever. In colchicine poisoning, clinical symptoms range from gastrointestinal irritations to multiple organ failure. (1)

Management of colchicine poisoning

In acute overdose, gastrointestinal decontamination is recommended within 1 to 2 hours; in patients without gastrointestinal symptoms, multiple dose activated charcoal can be considered. In chronic overdose, and in cases of acute toxicity, treatment is mainly supportive (IV fluids, vasopressors, haemodialysis, intubation); in cases of severe poisoning ECMO may be helpful, but there is no proof of clinical benefit. There is no antidote available. (1)

Causes of colchicine poisonings

Besides the “usual amount” of colchicine poisonings due to drug (mis)use, the PIC Erfurt has observed an increasing number of cases (not all of them exposures) regarding *Colchicum autumnale*, especially during the last 10 years (32 cases from 1995 to 2004 vs. 131 cases from 2005 to 2015). Particularly in spring, there were many enquiries concerning confusion of the leaves with *Allium ursinum* – probably caused by the growing trend of “healthy living” and “foraging” in nature – whereas enquiries in autumn mostly coincided with the picking of flowers (Fig. 2).

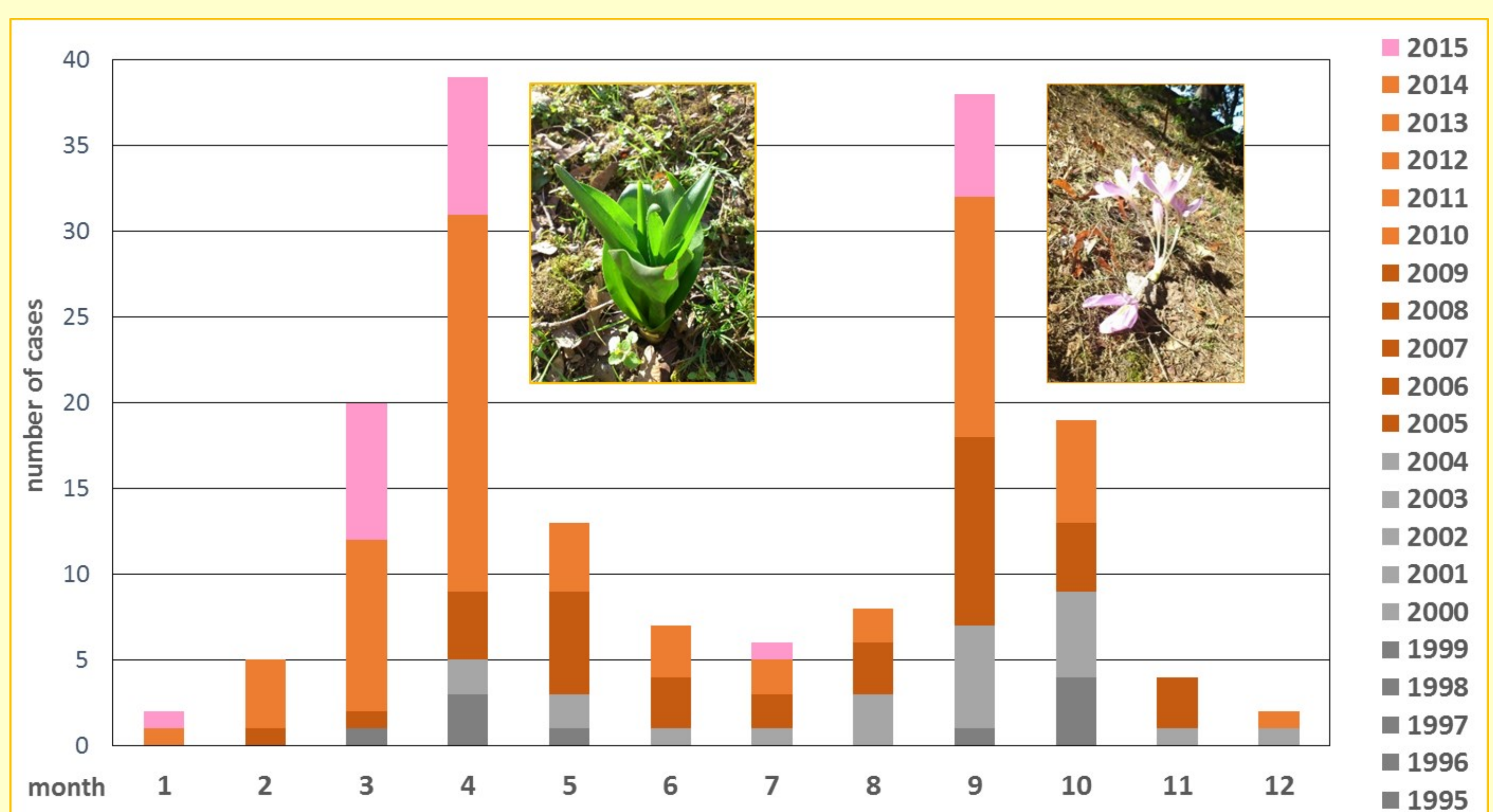


Figure 2 – Seasonal trend of cases regarding *Colchicum autumnale* reported to the PIC Erfurt (1995 to 2015)

Conclusion

Severity of adverse and toxic effects, respectively, seems to increase proportionally to the administered dose and duration of use. Ingestion of parts of *Colchicum autumnale* plants often leads to at least gastrointestinal symptoms, even in minor quantities. With pharmaceuticals, even doses not exceeding the recommended daily dose can lead to severe symptoms if taken over a longer period of time. Ingestion of large amounts (drugs or plants) usually results in severe gastrointestinal symptoms, multiple organ failure and death within 24 to 72 hours after ingestion. Considering the potential hazards, more awareness both in the use of colchicine containing drugs and the indiscriminating consumption of foraged plants would be favourable.

References

(1) Goldfrank's Toxicologic Emergencies, Ninth Edition, McGraw-Hill 2011