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## Case report

## Cardiotoxicity of yew

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## ABSTRACT

The Common Yew (*Taxus baccata*) is an ornamental tree. The taxine alkaloids contained in yew berries, needles or bark are poisonous. The lethal dose for an adult is reported to be 50 g of yew needles. Patients who ingest a lethal dose frequently die due to cardiogenic shock, in spite of resuscitation efforts. Although no specific therapy exists, in some patients the asystole phase can be overcome by instituting extracorporeal membrane oxygen therapy (ECMO). Therapeutic procedures reported in the literature are only referred to in published case reports and it is not self-evident whether they have been effective or whether the patient had ingested a non-lethal dose of the toxins. In our case report, we describe lethal intoxication by common yew needles in a suicide attempt and summarize the treatment options referred to in literature.

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## Introduction

The Common Yew (*Taxus baccata*) contains poisonous taxine alkaloids that are contained in yew berries, needles or bark. The lethal dose for an adult is reported to be 50 g of yew needles. According to the statistical evidence of the Toxicological Information Service in the Czech Republic, common yew poisoning is seen in minority children in the total number of consultations. Consumption by accident is relatively frequent, especially by children up to the age of three. These

cases are rather asymptomatic thanks to the small dose eaten. Common yew poisoning following a suicide attempt is rare, however with severe prognosis (Table 1).

## Case report

The Emergency Medical Service advised the hospital of the imminent arrival of a 25-year-old male patient with a high suspicion of common yew poisoning following a suicide attempt. The patient's girlfriend called medical assistance at

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E-mail address: [ondrej.piskac@uvn.cz](mailto:ondrej.piskac@uvn.cz) (O. Piskač).<http://dx.doi.org/10.1016/j.crvasa.2014.11.003>

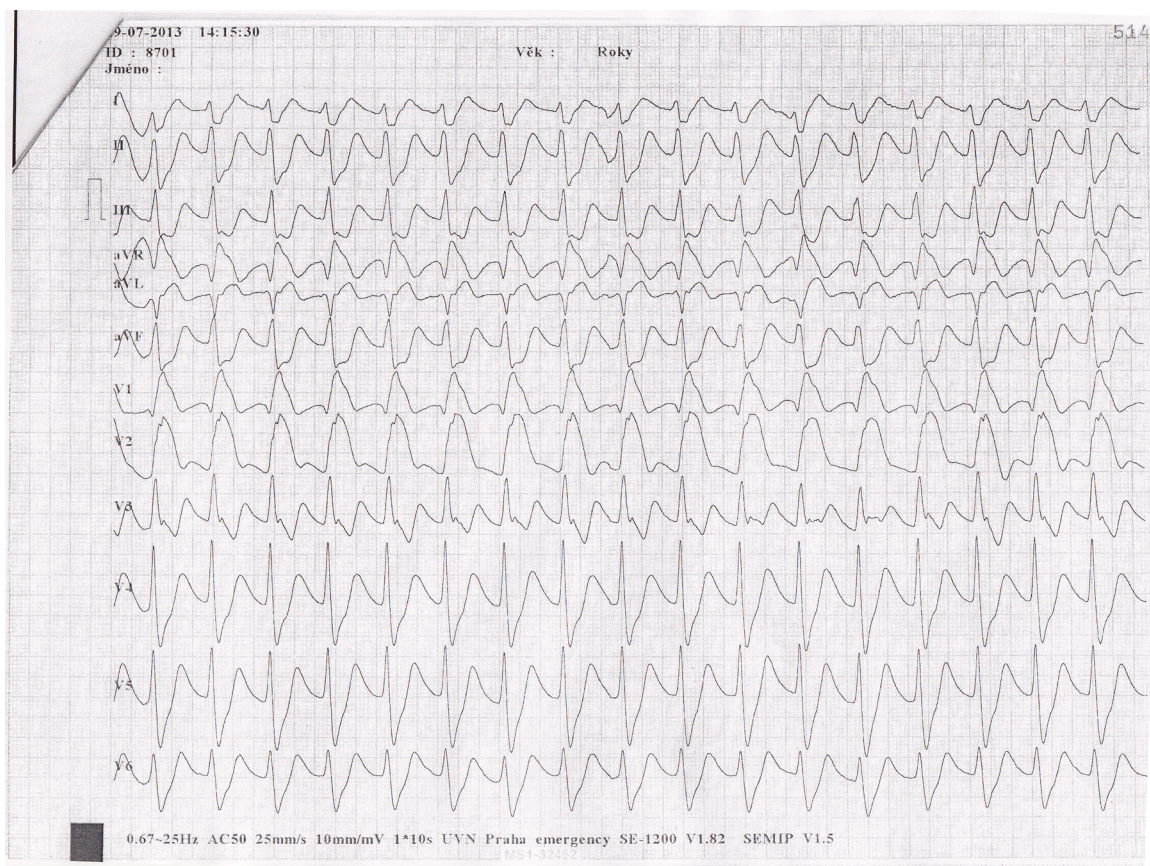
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**Table 1 – Statistics of consultations in cases of poisoning, Toxicological Information Service, Rakovcová MD.**

Year	Consultations in total number	Common yew consultations	Common yew – up to the age of 18 years	Children up to 3 years (out of the previous column)	Common yew adults (older than 18 years)	Severe course following accidental consumption	Suicidal attempts	Severe course following suicidal attempts
2014	15,224	147	113	82	34	0	2	0
2013	15,072	117	88	78	29	0	10	0
2012	14,702	82	59	44	23	0	6	1
2011	12,879	162	110	73	52	0	8	2
2010	11,776	76	66	48	10	0	4	0
2009	10,019	85	79	64	6	0	1	1
2008	9741	71	63	43	8	0	3	0
2007	11,423	93	79	61	14	0	8	2
2006	9965	86	64	60	12	0	1	1
2005	9502	86	64	55	12	0	6	0

2:15 p.m. after the patient herself notified her of the poisoning by telephone shortly after ingesting the poisonous infusion. Upon arrival to the Emergency Department at 3:05 p.m., the patient was still breathing spontaneously and was haemodynamically stable with arterial blood pressure on admission of 105/75 mmHg, pulse 100/min and a saturation of 100%. ECG recorded by EMS showed sinus tachycardia with a wide QRS complex of 0.15 ms (Fig. 1). Gastric lavage was performed before arriving at the hospital, and in the Emergency Department lavage was repeated using a nasogastric tube. Laboratory tests on admission revealed acidosis with a pH of 7.1 and lactate level of 2.5 mmol/L. Blood count, renal and liver

function tests as well as blood minerals were normal, only a borderline potassium level of 3.4 mmol/L was found, yet accompanied by the abovementioned acidosis. The acid-base balance was corrected by administering 200 mL of 8.4% NaHCO<sub>3</sub>. ECG continued to show sinus rhythm, however, with further QRS complex widening to 0.16 ms. At 3:40 p.m. the patient became unconscious with ventricular fibrillation. Repeated defibrillations were performed while a continuous amiodarone infusion was being administered. Due to the development of an arrhythmia storm with a cardiogenic shock, the patient was sedated and orotracheal intubation (OTI) was performed with subsequent artificial pulmonary

**Fig. 1 – ECG shows broad QRS complex tachycardia.**

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