

Acute liver injury after ingestion of rhubarb leaves: A Case report.

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Objective

Rhubarb (*Rheum rhabonticum*) is a common edible plant, all parts of which are known to contain oxalates and anthraquinones.(1) Usually only young rhubarb stems are used for food and leaves are not recommended, but there is rising trend to use any kind of green plants in raw salads or smoothies without thinking about safety.

Acute rhubarb toxicity is usually described as nephrotoxic poisoning due to oxalates.(2) More rarely yellowness of the skin, liver enlargement, elevated liver enzymes and cholestasis have been described in rhubarb intoxication. Also there are case reports of hepatotoxicity with other anthraquinone-containing plants.(1) Effect of rhubarb anthraquinones such as emodin, chrysophanol, aloemodin, rhein, and physcione on liver is mostly investigated on rats using preparations of rhubarb roots.(3,4). Anthraquinones have found to be hepatoprotective in lower (or therapeutical) doses but show hepatotoxic effect if dosage is increased further (4). The authors of this paper did not find cases of acute liver injury caused by rhubarb, without oxalate injury of kidneys. We described a case of hepatotoxic poisoning after ingestion of raw rhubarb leaves.

Case report

A previously healthy 47-year-old female prepared and drank a smoothie of pear, cucumber and fresh rhubarb leaves. **Two hours later** she felt thickness of mouth and had difficulty swallowing. **Six hours later** diarrhoea developed and **the following day** she complained of stomach pain and severe nausea. **On day 3** she contacted the Estonian Poisons Information Centre and was recommended to present to hospital. She presented at the Emergency Medicine Department of the North Estonia Medical Centre **at day 4**. On admission the main complaints were nausea, dry mouth, diarrhoea, weakness and mild epigastric pain. Liver enzymes were strongly elevated (S-ALAT 6000 U/L, S-AST 5000 U/L). Renal markers were normal. Tests for hepatitis and autoimmune diseases were negative. She was initially admitted to the nephrology department for expected kidney damage but was transferred to gastroenterology on the next day. Her **condition started to improve day 8** and she was **discharged from hospital day 11**, although the ALAT and ASAT serum concentrations were still elevated.

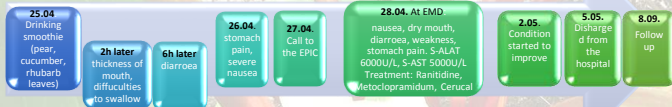


Fig 1. Flowchart of process of acute poisoning with rhubarb leaves 25.04.–05.05.2014

Results

	28.04. 2014	29.04. 2014	04.05. 2014	09.05. 2014	08.09. 2014
S-Bil µmol/L	32	26	9	16	9
S-ALAT U/L	6217	3854	885	154	16
S-ASAT U/L	5735	2280	135	42	17
S-LDH U/L		1253			
S-ALP U/L	102	92	70	59	37
S-GGT U/L	106	110	129	71	15
S-Bil-conj µmol/L	21,5	24	6,2	5,4	3,5
S-Crea µmol/L	62	53	54	66	55
e-GFR	90	107	105	83	102
P-PT-INR		1,49	1,17		
U-RBC		3	5		
U-Ket			3		

Fig 2. LAB-results changes 28.04.-08.09.2014

Conclusion

Rhubarb leaves are not recommended for consumption and may cause serious poisoning resulting in kidney damage due to oxalate poisoning. Reports of acute liver toxicity of rhubarb are rare, but it may occur when raw rhubarb leaves are eaten.

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North Estonian Medical Centre



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