

## P-58

### Fatal cyanide poisoning from alternative medicine treatment with intravenous amygdalin injection in a cancer patient

Thapanawong Mitsungnern<sup>1</sup>, Thanjira Jiranantakan<sup>2,3</sup>

1: Department of Emergency Medicine, Faculty of Medicine, Khon Kaen University, Thailand

2: Department of Preventive and Social Medicine, Siriraj Hospital Faculty of Medicine, Mahidol University, Thailand

3: Siriraj Poison Control Center, Siriraj Hospital, Thailand

**Objective:** To report a fatality following administration of amygdalin injection. Amygdalin or so called “Vitamin B17” has been used in cancer patients despite reports of severe cyanide poisoning and without antineoplastic effects. Amygdalin is converted into cyanide that results in severe or fatal cyanide poisoning in patients with intravenous amygdalin injection.

**Case Report:** A 73 year-old patient who suffered from advanced stage colon cancer with liver metastasis. He received intravenous amygdalin injection of 3, 6, and 9 grams at 7 days, 6 days and 5 days prior to hospital presentation, as well as 25 and 50 grams of intravenous vitamin C at 6 days and 5 days prior to hospital presentation, respectively, from an alternative medicine clinic. He experienced palpitations and dizziness during the last injection. The patient reported low blood pressure measurements (70-80/50-60 mmHg), nausea, vomiting and fatigue at home and presented to the emergency department 5 days later. The patient developed refractory hypotension (BP 70/40 mmHg) despite fluid therapy and inotropic medication but this resolved following intravenous administration of 10 gram sodium thiosulfate on day 6, day 7, day 8 after the last injection (days 1-3 post-admission), and an extra dose of 12.5 gram sodium thiosulfate on day 3 post-admission. The patient was clinically stable and did not require inotropic agents on day 2 post-admission. Serial hydrogen cyanide levels were examined in blood and urine by using Gas Chromatography Mass Spectrometry (GC-MS). Hydrogen cyanide levels were confirmed on the patient’s plasma and urine taken at day 6 after injection as 428.20 and 661.48 microgram/mL respectively. The levels declined further both in plasma and urine taken at day 7 (98.40 and 226.42 microgram/mL), day 8 (2.21 and 10.75 microgram/mL) and day 9 (0.49 and 1.14 microgram/mL). However, he developed abdominal pain, shock and markedly decreased hematocrit level from 31% to 21% on hospital day 8. He passed away on day 10. It was concluded that the cause of death was colon cancer and rupture of metastatic mass in liver.

**Conclusion:** This is a confirmed cyanide poisoning resulted from intravenous amygdalin injection who was successfully treated by sodium thiosulfate but eventually died from metastatic colon cancer. Intravenous amygdalin injection causes severe or fatal cyanide poisoning.