

## Oral Abstracts

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#### CYANIDE POISONING IN PRE AND POST NATIONAL ANTIDOTE PROJECT ERA

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**Objective:** To compare death and antidote reach in cyanide poisoning cases from cyanide ingestion before and after establishment of Thai National Antidote Project.

**Methods:** This is a retrospective cohort of poisoning cases involved with cyanide or cyanogenic glycoside ingestion reported to Ramathibodi Poison Center from January 1<sup>st</sup> 2007 to December 31<sup>st</sup> 2015, which was 3 years and 10 months before Thai National Antidote Project to 5 years and 2 months of the project.

Demographic data, symptoms, substance type, treatment, initial severity, and outcome of the case, were recorded. Appropriateness of using antidote was determined, by a panel of medical toxicologists and poison center information scientists, in three subcategory 1) right indication, 2) right dose, and 3) timeliness.

Mortality rate, antidote use, and appropriateness of antidote use were compared between the time before and after Thai National Antidote Project was operated. Subgroup analysis of severe cyanide poisoning case was performed.

**Results:** During study period there were 343 cases involved with cyanide or cyanogenic glycoside ingestion reported to Ramathibodi Poison Center. Median age was 5 years (range from 0.8 year to 79 years), 176 cases (51.3%) were male. There were 130 cases (37.9%) during January 1<sup>st</sup> 2007 to October 31<sup>st</sup> 2010, which was the period before Thai National Antidote Project. There were 213 cases (62.1%) during November 1<sup>st</sup> 2010 to December 31<sup>st</sup> 2015, which was period of Thai National Antidote Project.

After the project started, there were higher antidote uses (RR 1.62, 95% CI 1.15 – 2.28) and higher rate of appropriate antidote uses (RR 1.48, 95% CI 1.03 – 2.14). There were 30 deaths (8.75%). There was no difference in overall mortality rate between the time before and after the project.

In subgroup analysis of 85 severe cases, the mortality rate was lower after the project started (52.0% before, and 28.3% after the project, RR 0.54, 95% CI 0.31 - 0.95). Multivariate analysis of mortality in severe cases using age, sex, intent, type of cyanide, and presence of antidote project was performed. Suicidal intent was associated with higher mortality (OR 11.63, 95% CI 2.11 – 64.09). Presence of antidote project was associated with lower mortality (OR 0.24, 95%CI 0.07 – 0.74).

**Conclusion:** After Thai National Antidote Project was operated, there were higher antidote uses and higher rate of appropriate antidote uses. Though there was no difference in overall mortality rate, the project was associated with lower mortality rate in severe cyanide poisoning cases.