

Acute intentional self-poisoning with a selective Herbicide Bispyribac sodium (BPS): A prospective observational study

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Background: BPS is a selective, systemic post-emergence herbicide (1, 2) **Objective:** To describe the symptoms and primary outcomes from intentional poisoning with BPS herbicide. **Method:** Data was collected prospectively from 04th June 2002 to 31st July 2007 discharge or death. Plasma samples were taken on admission in all poisoned patients to be analysed in the future. Ingestion of BPS was established from the bottle and or label brought to the hospital or by verbally communication from patient or a relative who witnessed the event. **Results:** There were 73 cases with a history of BPS ingestion. Gastric lavage was carried out in 1 patient and forced emesis in 35 patients. Multiple dose of charcoal, single dose of charcoal and atropine were given respectively for 12, 9 and 3 patients. The median hospital stay, estimated volume ingested and time to present to hospital since ingestion were 3 days, 30 ml, and 3 hours respectively. The clinical features are diarrhoea, vomiting and epigastric burning (See table 1), and the cardiovascular examination findings are presented in table 2. Eleven patients recorded with epigastric pain on admission became normal on following day. Two patients had abnormal pulse on admission that became normal following day. Ten patients had a reduced of consciousness on admission (GCS 6 -14). These resolved within a day, and may reflect co-ingestion of alcohol. One patient had pinpoint pupils and five patients had 5 to 6 pupils sizes on admission, these resolved within few hours. No patient had cyanosis on admission and throughout the hospital stay. Eight patients were reported to have had crepitations on admission but after a few hours these resolved in most of these patients and only one patient had crepitations up to 9 days. No patient required intubation or intensive care treatment. All patients were given symptomatic treatment and supportive care. There were 2 deaths in the 73 cases of BPS poisoning, and the case fatality was 2.73% (95% CI: 0.0018 to 0.1002 using Wald method). **Deaths:** A 32 year old man admitted 13 hours after ingesting unknown amount of Bispyribac sodium with co-ingestion of alcohol. Admission signs GCS was 12/15, Pulse 84/min, BP 100/70, Pupil size 4 of both eyes. Died 4 hours after admission. A 43 years old man admitted 3 hours after ingesting 90 ml of Bispyribac sodium. Forced emesis was done soon after admission. On admission, that GCS was 13/15, Pulse 92/min, BP 170/90, Pupil size 2 of both eyes. The patient died within 3 hours from the admission. **Discussion:** BPS poisoning has not been previously described. The main clinical features are gastrointestinal in nature some of these symptoms may relate to the forced emesis that was carried out in over half of the cases in the series. No cause of mechanism for death was identified in the two fatal cases. **Conclusion:** These data suggest that the BPS is a relatively safe overdose when compared with other herbicides such as paraquat (Case fatality >70%), glyphosate (3.4%), MCPA (5%) and propanil (10.5) **Reference:** (1)S. Kegley, B. Hill, S. Orme, *PAN Pesticide Database*, Pesticide Action Network, North America (San Francisco, CA. 2007), <http://www.pesticideinfo.org>.(2) www.pesticideinfo.org/Detail_ChemUse.jsp?Rec_Id=PC39696. (3). www.epa.gov/fedrgstr/EPA-PEST/2001/September/Day-18/p23227.htm. (4)[www.kingtaichem.com/pro h BISPYRIBAC-SODIUM](http://www.kingtaichem.com/pro_h_BISPYRIBAC-SODIUM).(5) [www.wuzhouchem.com/cataloged/agro/herbicide/bispyribac sodium](http://www.wuzhouchem.com/cataloged/agro/herbicide/bispyribac_sodium)

Clinical Features	Percentage
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Vomiting	49% (36)
Epigastric burning	15% (11)
Diarrhoea	1.4% (01)
Rhonchi	11% (08)

Examination findings	Value (mean)	95% CI
Pulse rate beats/min	84	81.12 to 87.0
Systolic BP mmHg	118	114.51-121.32
Diastolic BP mmHg	76.49	73.75 - 79.23