

## **Effect of Concomitant Atropine and Glycopyrrolate Infusion in Organophosphorus Poisoning**

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**Aim :** To study the effectiveness of concomitant atropine and glycopyrrolate infusion over atropine infusion in organophosphorus (OP) poisoning. **Methods :** A prospective randomized study was carried out among 60 OP poisoned patients admitted to an emergency department of tertiary care hospital in south India. All patients admitted with acute OP poisoning were enrolled in the study. They were randomized into test group and control group of 30 patients each. Patients who received only atropine alone were randomized as control group and patients who received concomitant glycopyrrolate were enrolled in the test group. All patients were provided 1g pralidoxime every eighth hourly treatment. The severity was assessed using GCS, APACHE II, and PSS scores at admission. The outcomes were assessed in terms of intermediate syndrome, ventilation period, total dose and duration of atropine, atropine toxicity, incidence of pneumonia, hospitalization period and mortality. **Results :** A total of 60 patients were admitted due to OP poisoning during a one year period. At admission, there were no significant differences in demographic data, time of arrival, initiation of treatment and severity of poisoning. Comparison of the two groups showed that there was a significant improvement of ventilator period in study group (4.2 days) than control group (5.4 days). Intermediate syndrome was developed in 10 % of control group and only 2 % of study group developed intermediate syndrome. The total atropine requirement and duration was reduced in study population. Atropine induced CNS toxicity was observed in 40 % of the control group while only 4% of study group had CNS toxicity. A total of 30% of the patients in control group developed pneumonia unlike only 10 % of study group. However there was no significant difference in mortality rate and number of hospitalization days in both groups. **Conclusion :** Glycopyrrolate also has been tried as an alternative for the atropine. The major advantage of the drug is it has less effect on central nervous system when compared atropine and the combination will be more beneficial, as it reduces the toxicity of atropine on central nervous system. Addition of glycopyrrolate appears to be a promising intervention in the management of OP poisoning.