Plasma surfactant D in patients following acute paraquat intoxication.

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Objective: Free radical-induced lung injury is a major problem of paraquat intoxication. Serum surfactant protein D (SP-D) reflects the severity of various lung diseases (1). The purpose of this study was to investigate the changes in plasma SP-D concentrations and to correlate disease severity with SP-D concentrations in patients with acute paraqaut intoxication. **Method:** Twelve paraquat intoxicated patients participated in this study. Their paraquat exposure was assessed by their plasma's paraquat level. Serial plasma SP-Ds were measured by ELISA. **Results:** The observed concentrations of SP-D are shown in Figure 1. SP-D was decreased two and three days after the initial measurement within 2 to 72 hours of ingestion. There was no difference in initial SP-D levels between survivors and non-survivors. The SP-D test revealed a significant positive correlation between the SP-D level and PaO_2 (r= 0.384, p=0.003, N=57). **Conclusion:** SP-D did not predict the likelihood of survival, but it was positively correlated with PaO_2. This finding suggests that low concentrations of plasma SP-D could reflect hypoxia due to free radical-induced injury. **Reference:** 1.Kuroki Y, Takahashi H, Chiba H, et al. Surfactant proteins A and D: disease markers. *Biochim Biophys Acta* 1998: 1408: 334-345.
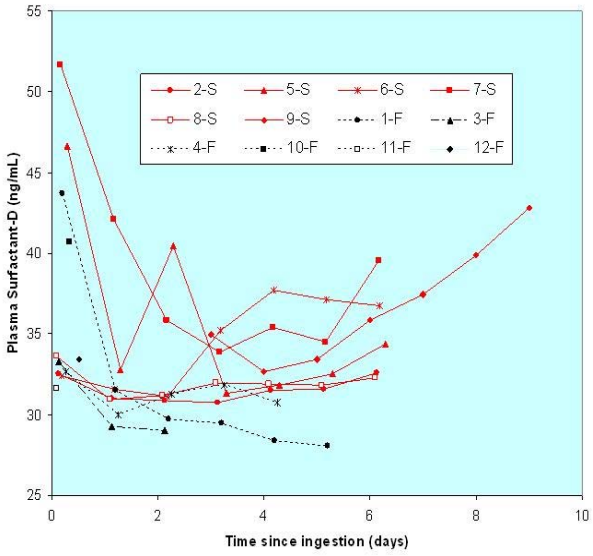
Figure 1. Serial change of plasma SP-D versus time sine injection(days)