1969 numerous reports of fatalities and serious reactions in children who accidentally ingested Lomotil tablets appeared.\textsuperscript{4-9} Even with the accidental overdosage of relatively small amounts (six tablets for a 2-year-old child\textsuperscript{5}), respiratory failure and cardiac arrest have occurred. A recent report to the FDA described prolonged respiratory depression in a 22-month-old infant who ingested five tablets of Lomotil. The serious adverse effects are compounded because both constituents of the combination, diphenoxylate hydrochloride and atropine sulfate, contribute to the poisoning.

Following these reports, FDA reviewed the use of Lomotil in the pediatric age group.

\textbf{DISCUSSION}

Each Lomotil tablet or 5 ml of liquid contains 2.5 mg diphenoxylate hydrochloride and 0.025 mg atropine sulfate. The National Formulary\textsuperscript{10} designates diphenoxylate hydrochloride as an "antidiarrheal (narcotic)." It is chemically related to meperidine hydrochloride (Demerol).\textsuperscript{4,11-13} Fraser and Isbell\textsuperscript{13} call diphenoxylate hydrochloride a "congener of meperidine."

A comparison of the two chemical structures is shown:

\begin{center}
\begin{tikzpicture}
  \node (a) at (0,0) {CN};
  \node (b) at (0,-1) {N-CH\textsubscript{3}CH\textsubscript{2}C-\textsuperscript{HCl}};
  \node (c) at (1,-2) {COOCH\textsubscript{2}H\textsubscript{5}};
  \node (d) at (2,-3) {Diphenoxylate hydrochloride, N.F. XIII};
  \node (e) at (3,-4) {N-CH\textsubscript{3} \textsuperscript{HCl}};
  \node (f) at (4,-5) {COOCH\textsubscript{2}H\textsubscript{5}};
  \node (g) at (5,-6) {Meperidine hydrochloride, U.S.P. XVIII (Demerol)};
\end{tikzpicture}
\end{center}

Because of the structural similarity of the two drugs, "when measured on a milligram for milligram basis," the addicting potential of Lomotil has been considered approximately equal to or slightly less than meperidine.\textsuperscript{14} Investigators have attempted to use diphenoxylate hydrochloride to treat diarrhea in children.\textsuperscript{2-3} However, in 1969 numerous reports of fatalities and serious reactions in children who accidentally ingested Lomotil tablets appeared.\textsuperscript{4-9} Even with the accidental overdosage of relatively small amounts (six tablets for a 2-year-old child\textsuperscript{5}), respiratory failure and cardiac arrest have occurred. A recent report to the FDA described prolonged respiratory depression in a 22-month-old infant who ingested five tablets of Lomotil. The serious adverse effects are compounded because both constituents of the combination, diphenoxylate hydrochloride and atropine sulfate, contribute to the poisoning.

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