Manifestations of acute mercury poisoning depend on the type of mercury involved (elemental [Hg⁰], organic, or inorganic salts [Hg¹⁺ and Hg²⁺]) as well as the route of exposure—aspiration, inhalation, ingestion, or injection. This report focuses on a rare form of mercury exposure—venous embolization.

A 40-year-old woman entered the hospital in 1977 for treatment of partial small bowel obstruction consequent to adhesions from a previous appendectomy. A plain abdominal film obtained after insertion of a mercury-weighted Cantor tube showed metallic densities of different sizes and shapes in the right upper quadrant (Figure 1). Tiny densities of the same type were also evident in her pelvis. On further questioning, the patient said that five years earlier, mercury had accidentally entered her vein during blood sampling with a mercury-sealed syringe. The mishap had produced no ill effects, but follow-up radiographs had shown metallic densities not only in her abdomen and pelvis, but also in her chest (Figure 2), skull (Figure 3), and site of injection. She received no treatment at the time and had remained asymptomatic until the onset of her present illness.

**COMMENT**

Embolization of elemental mercury results from the accidental or deliberate injection of mercury into a peripheral vein. Because mercury can pass through the pulmonary capillary bed or around it through shunts, mercury emboli may be visible not only in the chest and right side of the heart, but also in the head, neck, abdomen, and pelvis. The simultaneous presence of small metallic densities in such widespread (continued on page 39)

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**Figure 1.** Plain abdominal film, close-up view of right upper quadrant, showing peculiar metallic densities and a Cantor tube.
Elemental Mercury Embolism

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(continued from page 34)

Figure 2. Chest film, close-up view of left mid lung field, showing scattered metallic densities. Similar densities were visible in the right mid and lower lung fields.

Figure 3. Skull film, close-up frontal view, showing tiny metallic densities (arrows).

sites is virtually pathognomonic of mercury embolism. In most cases, the clinical manifestations, if any, are mild and of short duration. Supportive care usually suffices, and prognosis is good.

Elemental mercury, commonly known as quicksilver, is the least toxic of the three aforementioned forms. Ingestion of the inorganic and organic forms can cause severe, sometimes fatal, gastrointestinal complications. Conversely, when elemental mercury enters the intestinal tract—accidentally through leakage from a broken intestinal tube or thermometer, or intentionally for suicidal purposes—it may cause local disturbances but ordinarily causes no systemic response. Likewise, elemental mercury emboli to abdominal structures are clinically silent but do leave their radiographic calling cards.

References

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