

Toxic leukoencephalopathy

- Encephalopathy predominantly affecting white matter as a result of a toxic substance.
- Clinical presentation of toxic leukoencephalopathy is extremely variable
- Ranging from minor cognitive impairment, easily confused with psychiatric illnesses to severe neurological dysfunction.

Causes

- Antineoplastic drugs
 - methotrexate (10% IV, 40% intrathecal)
 - carmustine
 - cisplatin
 - cytarabine
 - fluorouracil (5-FU)
 - thiotapec
 - interleukin-2 (IL-2)
 - interferon alpha (INF alpha)
- Immunosuppressive drugs
 - Cyclosporin
 - Tacrolimus
- Antimicrobial agents:
 - amphotericin B
 - Hexachlorophene
- Carbon monoxide
- Radiation

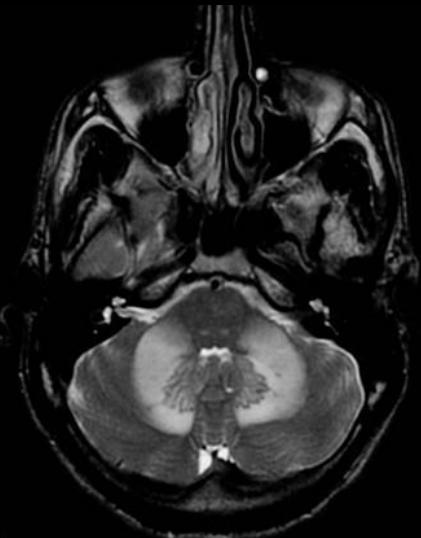
Causes (Abuse)

- Toluene
- Ethanol
- Methanol
- Cocaine
- MDMA, ecstasy
- Intravenous heroin
- Inhaled Heroin “chasing the Dragon)

Chasing the Dragon

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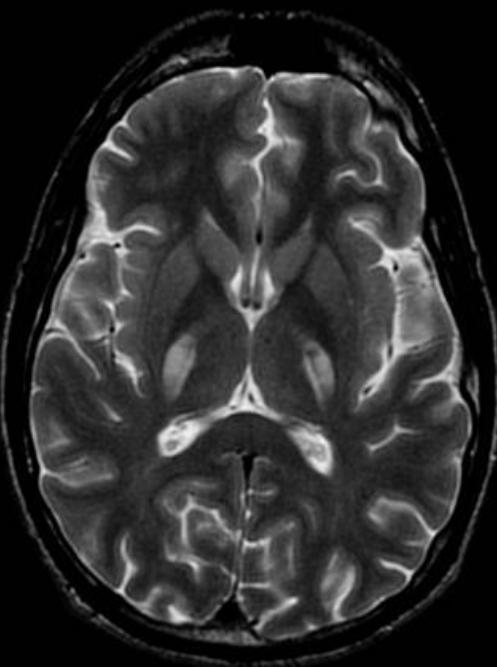
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Chasing the Dragon

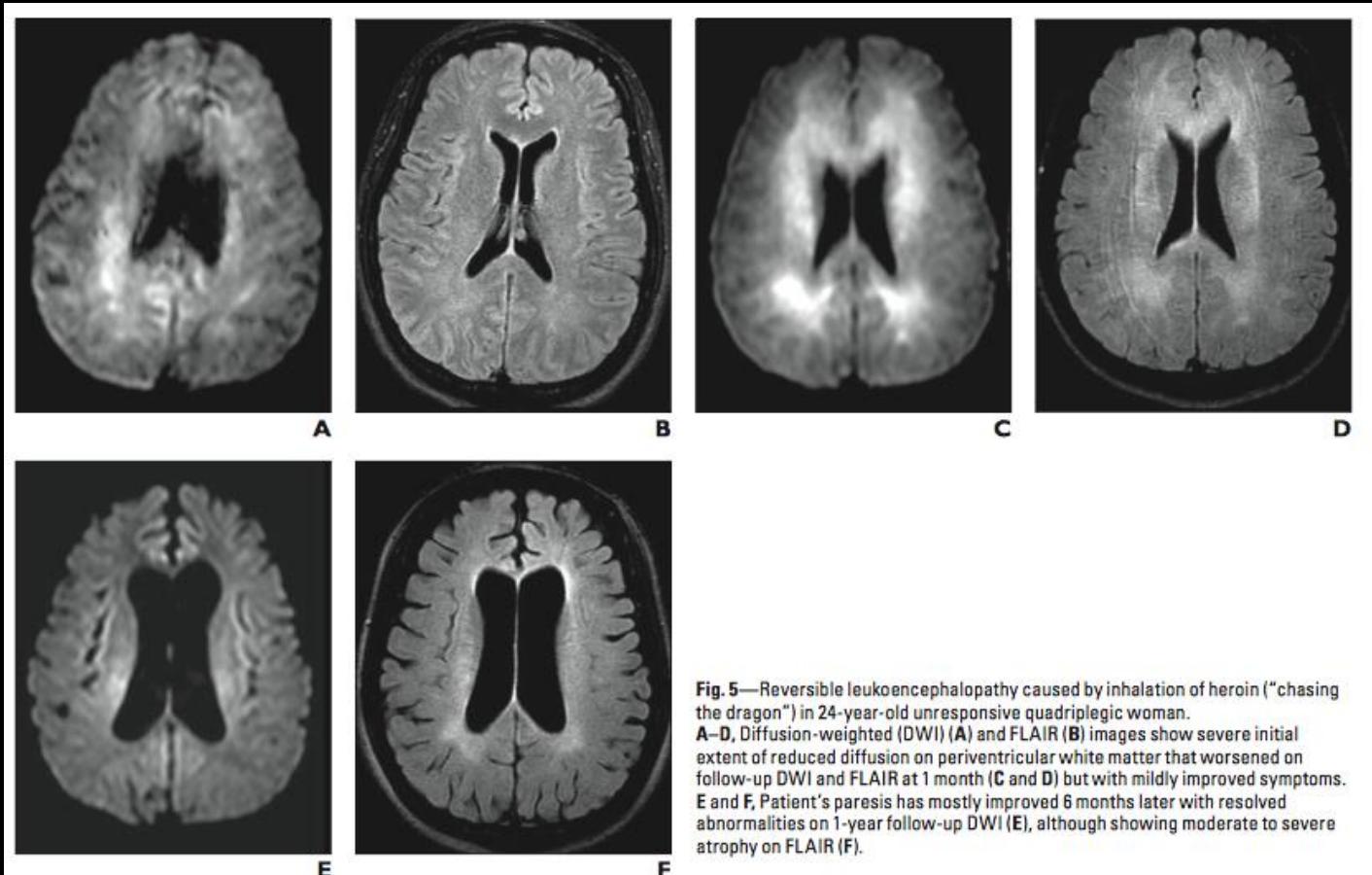


Fig. 5—Reversible leukoencephalopathy caused by inhalation of heroin (“chasing the dragon”) in 24-year-old unresponsive quadriplegic woman.
A–D, Diffusion-weighted (DWI) (A) and FLAIR (B) images show severe initial extent of reduced diffusion on periventricular white matter that worsened on follow-up DWI and FLAIR at 1 month (C and D) but with mildly improved symptoms. E and F, Patient’s paresis has mostly improved 6 months later with resolved abnormalities on 1-year follow-up DWI (E), although showing moderate to severe atrophy on FLAIR (F).

Cyclosporine

