

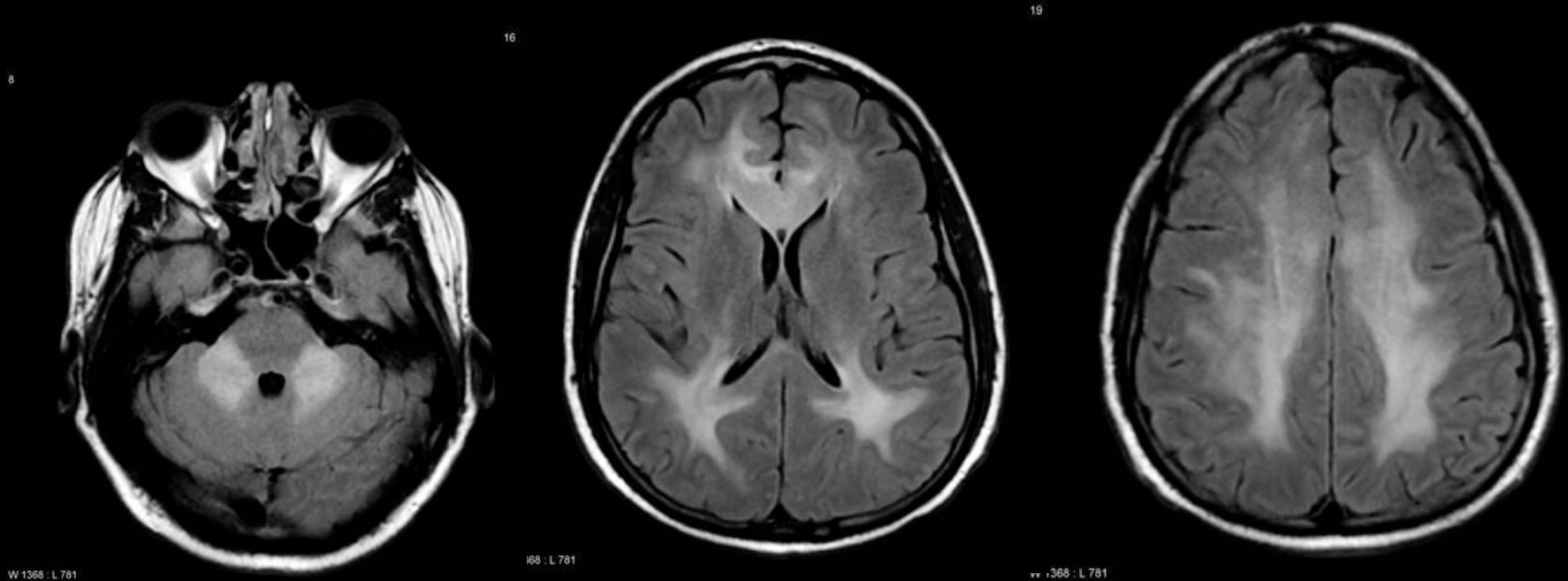
Chemotherapy toxicity

- Methotrexate, cis-platin, cytosine arabinoside □
- Acute: During therapy
- Delayed: Few weeks to months □
Synergistic effect with radiation

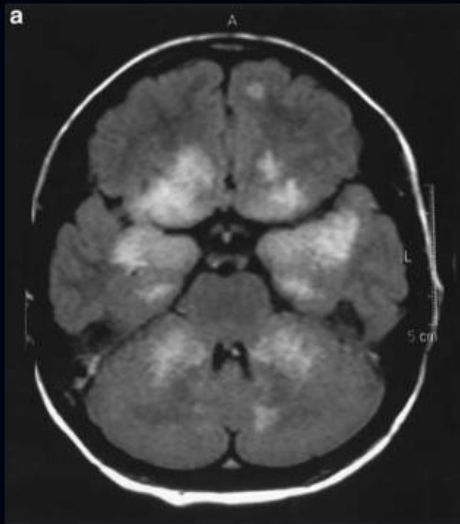
Chemotherapy toxicity

- Acute: Transient diffuse WMH
- Delayed: Patchy
- to confluent WM pattern
 - Spares deep WM, brainstem, and cerebellum
 - Can develop to severe necrosis (with radiation)
 - Long term: Atrophy, **Ca++ in children**

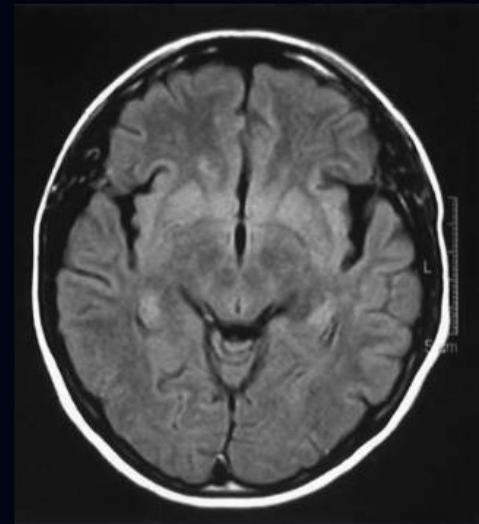
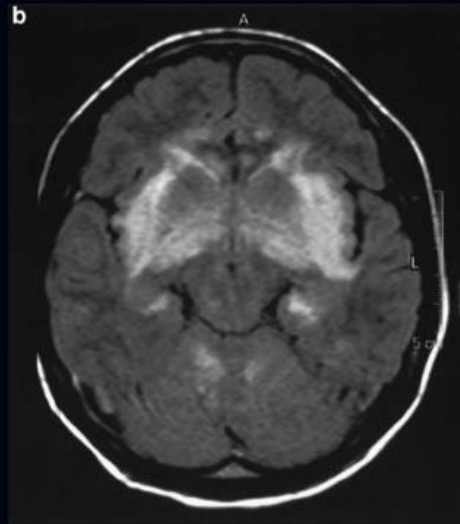
Methotrexate and Irradiation



Chemotherapy Toxicity



Shortly after 3rd cycle



4 weeks later

20-year-old woman s/p induction chemotherapy for ALL