Systemic involvement

Neonatal Cholestasis

Foetal ascites/hydrops

(Hepato) Splenomegaly

- Absent in ~15% of cases
- Age of onset is variable
  - always before neurological signs
- May regress with age

Liver

Neonatal fatal

Age, years

Birth 1 2 3 6 10 20 30 40 50 60

Delay in motor milestones Hypotonia

(Early) Infantile

Gait problems Clumsiness Speech delay Cataplexy

Late Infantile

School problems Ataxia (Seizures) (Cataplexy)

Juvenile

Ataxia, Dystonia (Dementia)

Adult

Psychiatric problems

Neurological involvement

Vertical supranuclear gaze palsy