Neurological impairment in a child with perinatally acquired HIV infection

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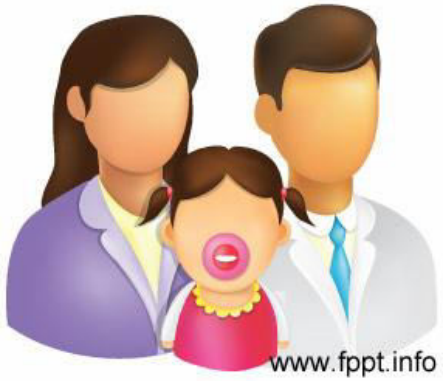


Patient's Medical History

G. M., 1yr 6mo, male

Urban area

transfer → **NIID "M. Balș"**

13 Jan. 2015

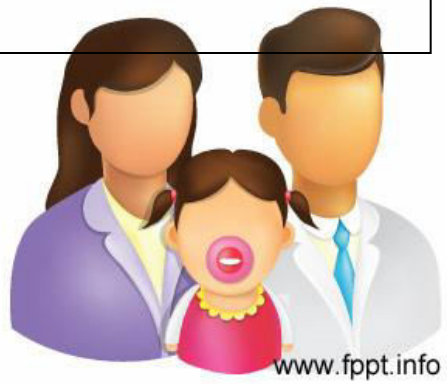
due to

Suspicion of HIV infection

Family Medical History

Mother
dg. with HIV infection
- 01. 2015,
at 19 yr
(stage CDC B2)

Father
dg. with HIV infection - 01. 2015,
at 28 yr



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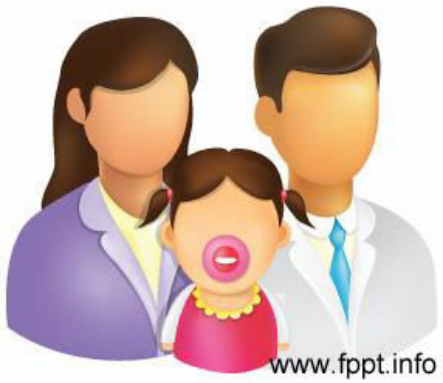
Patient's Personal Medical History

- only child
- monitored pregnancy (negative HIV test in month 4 of pregnancy!)
- vaginal delivery, on time
- BW=3200 g, BL = 51 cm, HC = 35,5 cm (percentile 40),
- Apgar score 9
- favourable postnatal outcome
- breastfed up to 4 months
- complete vaccination
- neurodevelopmental history:
  - good control of the head by 5Mo1/2
  - The child could sit unsupported by 11 Mo



Patient's Personal Pathological History

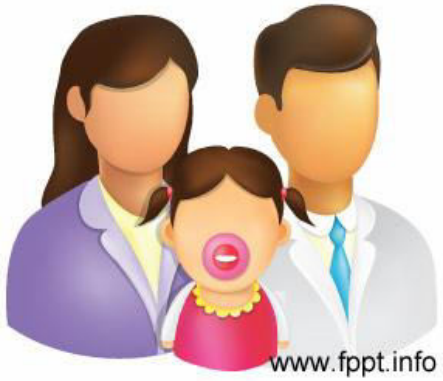
• Recurrent bronchiolitis (required admission in the hospital more than 10 times)

– treated with corticosteroids

• Episodes of enterocolitis

• During the last period of hospitalization for fever, wheezing, dyspneea (jan. 2015):

- Negative Quantiferon TB
- Negative genetic testing for Cystic fibrosis
- Positive HIV serology – patient was transferred to NIID Matei Bals



Physical examination on admission:

- Weight = 10kg (under P 25),
- Height=81cm (percentile 30), BMI = 15,2(percentile 25)
- no fever, "moon" face, facial plethora, hirsutism
- productive cough, dyspnoea with tachypnoea, wheezing, crackles, cervical lymphadenopathy, oral thrush
- hepatomegaly

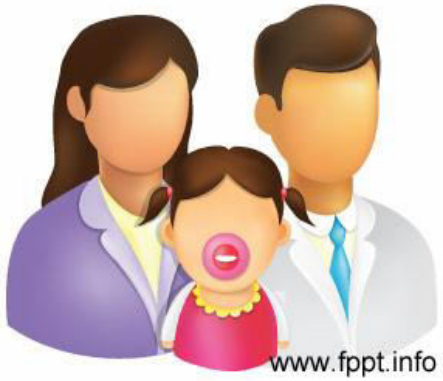
- **<u>Neurological exam (1yr6mo):</u>**

– microcephaly HC = 44,8 cm (< P 3)

- global neurodevelopmental delay: No walking without assistance, Speech: 2-3 simple words

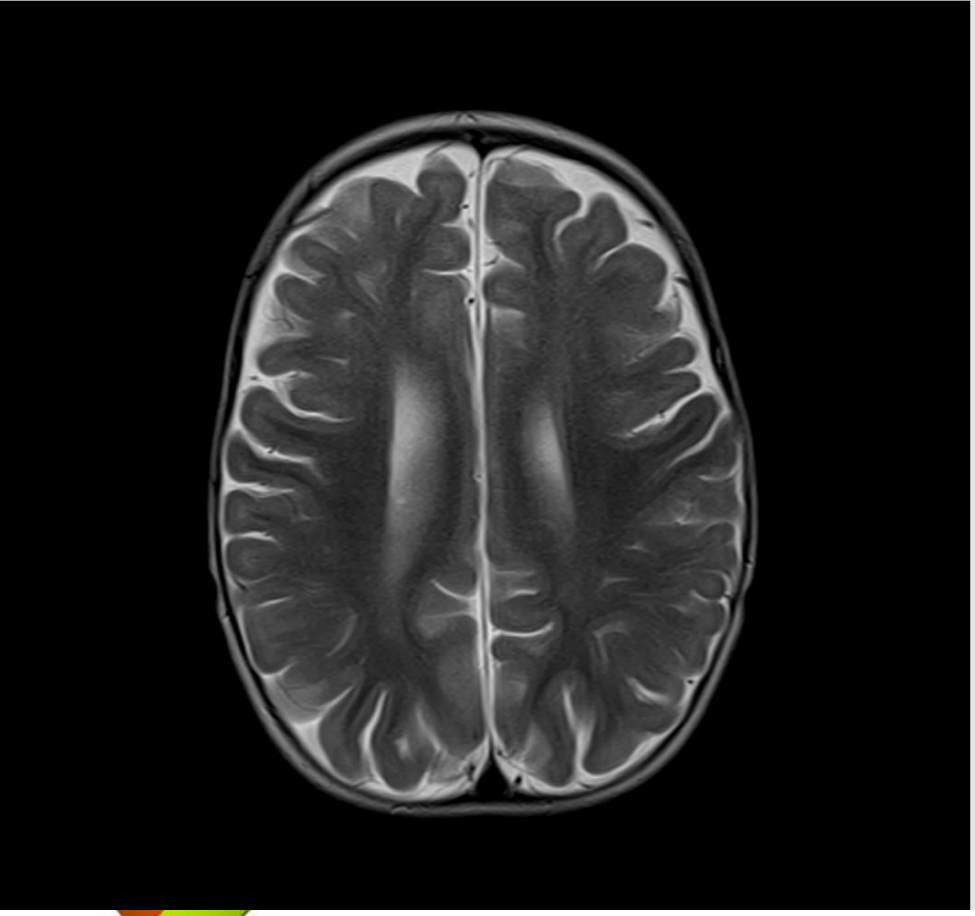
- pyramidal syndrome:
  - Hyperactive patellar reflex
  - Bilateral plantar clonus
  - spasticity – hypertonia in lower limbs

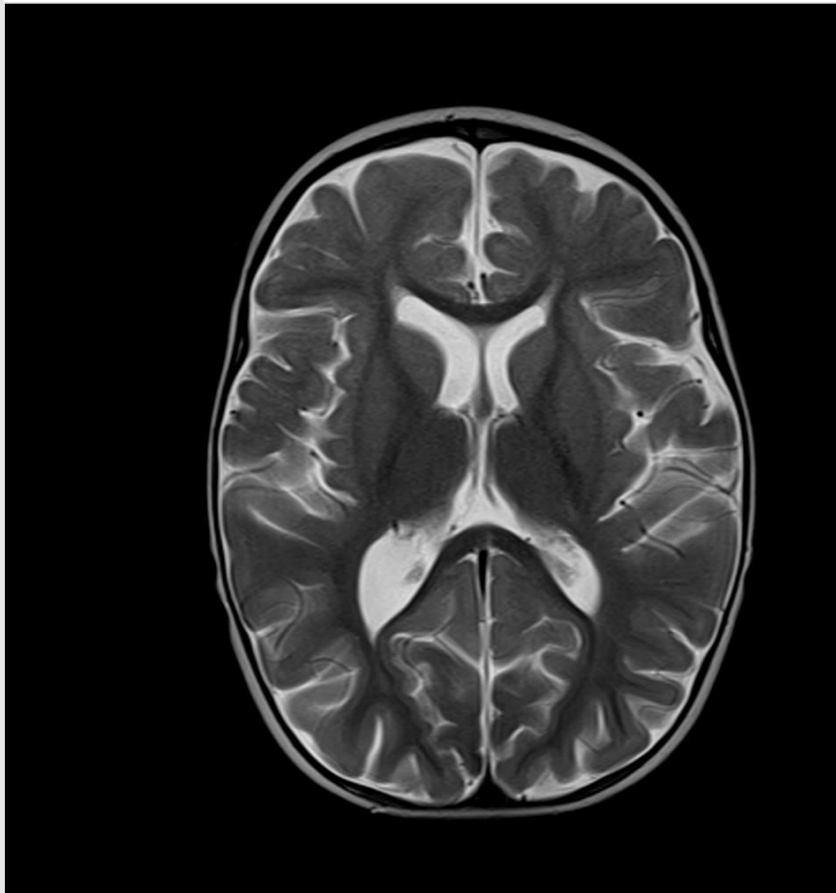
- normal cranial nerves

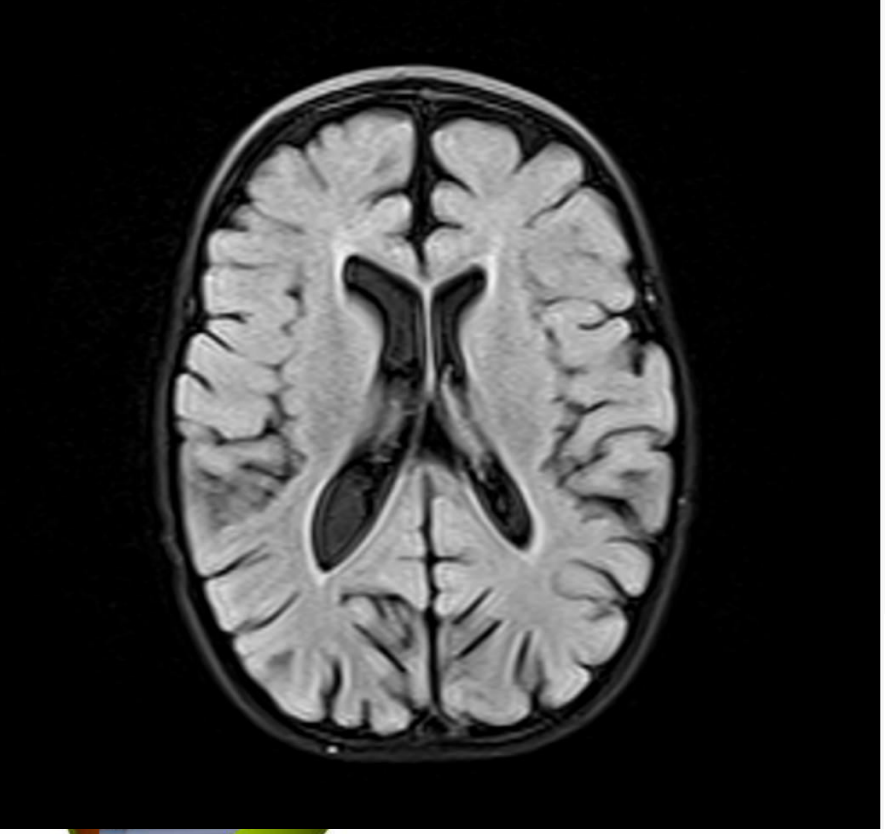


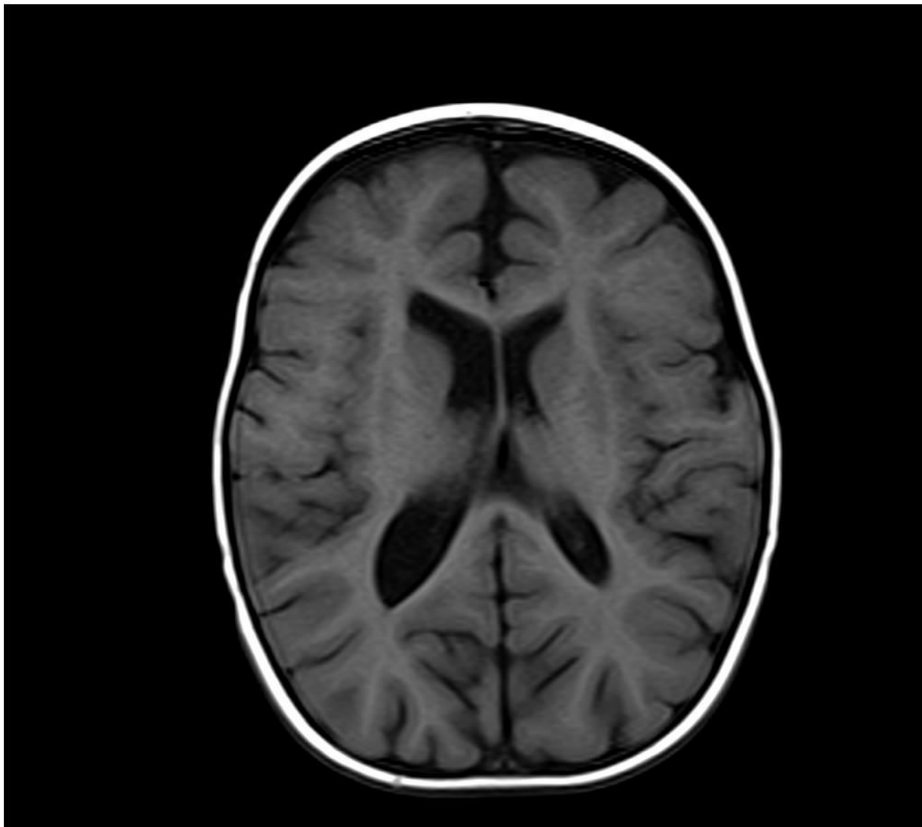
Other investigations

- Thyroid hormone levels – normal
- Metabolic diseases screening – negative
- TORCH profile – negative
- Transfontanelar ultrasonography – ventricular enlargement
- Cardiac, abdominal ultrasonography – normal
- ENT exam – normal findings
- LP - CSF VL = 28.000c/ml
- EEG – normal for age
- IRM – asymmetrical cerebral ventricles, mild ventriculomegaly, enlargement of supratentorial peri cerebral space, mild cortical atrophy



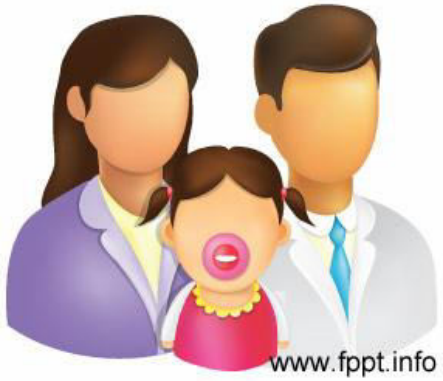




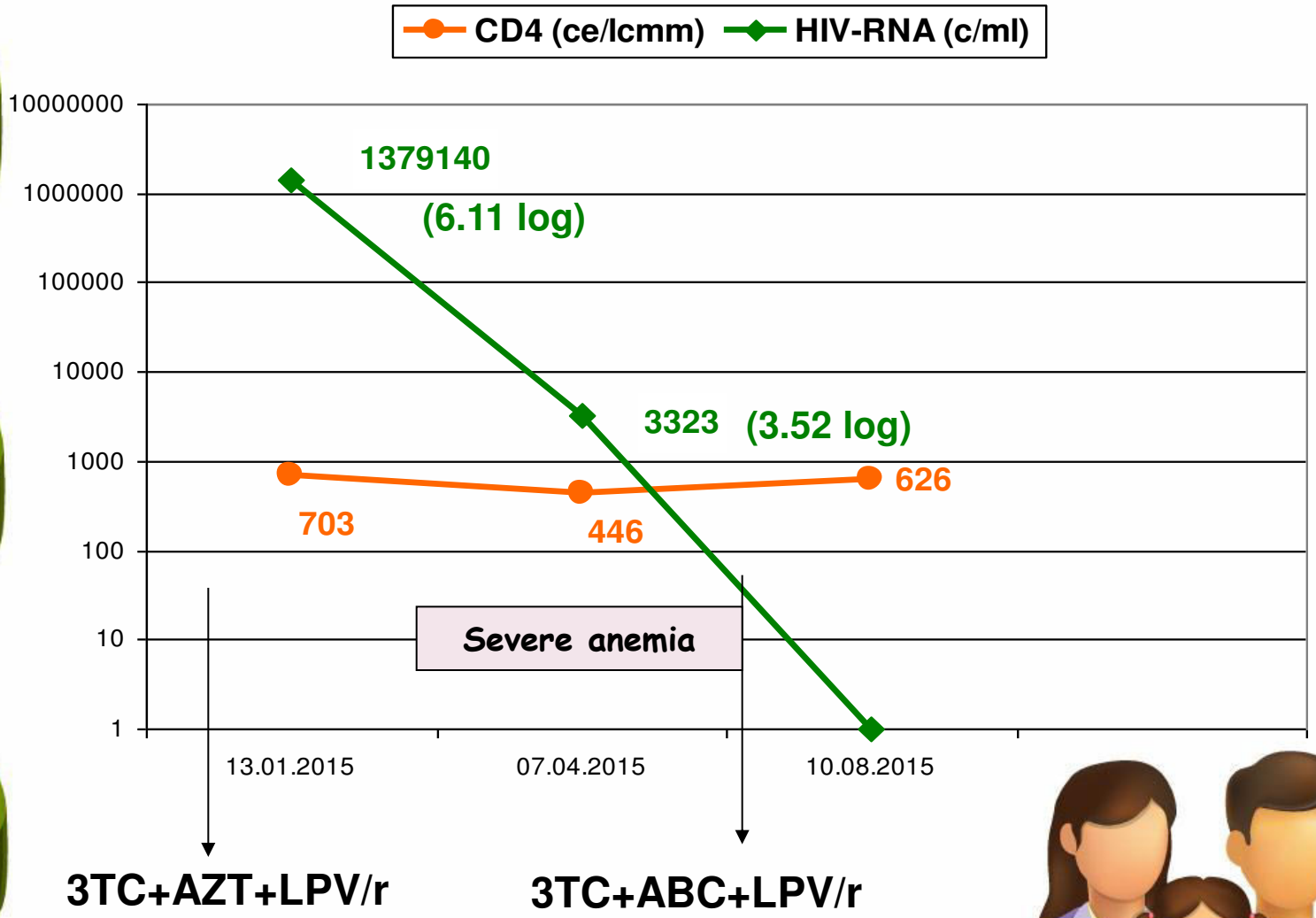


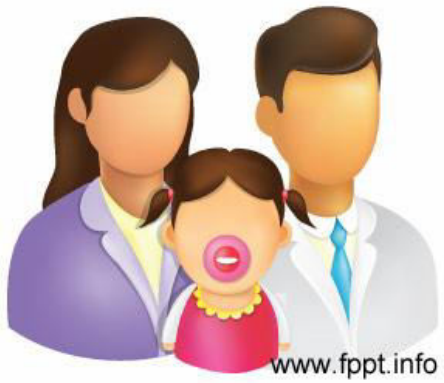
Diagnosis:

- AIDS – stage CDC C3
- Severe steroid-dependent recurrent wheezing
- Oropharyngeal candidiasis (tongue scraping and stool culture showed Candida albicans sensitive to Fluconazol)
- HIV encephalopathy
- Iatrogenic Cushing Syndrome
- PJP & MAC Prophylaxis



Immunologic and Virologic History





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Evolution after 8 month of HAART

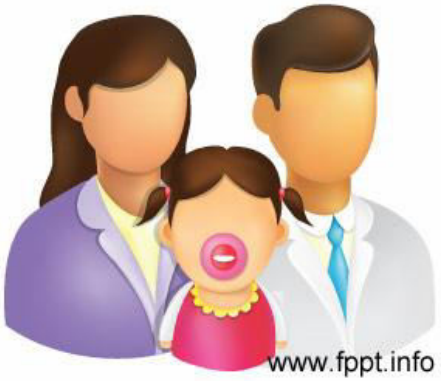
• Favourable disease development under treatment, very good adherence

•No recurrent wheezing episodes; no need for corticosteroids

•Neurological and cognitive improvement:

- Head circumference increased slowly (47 cm, P 15)
- He can walk alone
- He can follow simple instructions
- When asked, he points out familiar persons, animals, and toys

•Undetectable CSF VL



Conclusions

- Although the mother's pregnancy has been monitored and the HIV test has been performed at month 4 and although the child has been hospitalized several times in different hospitals, he has been diagnosed with HIV late, at 1.5yr.
- The neurological impairment of the child progressed from normal at birth to acquired microcephaly, pyramidal tract signs and spasticity.
- Neurologic status improved after 7 months of HAART.
- Limited options, drug interactions and significant side effects make the management of HIV infection in an infant/young child extremely difficult.