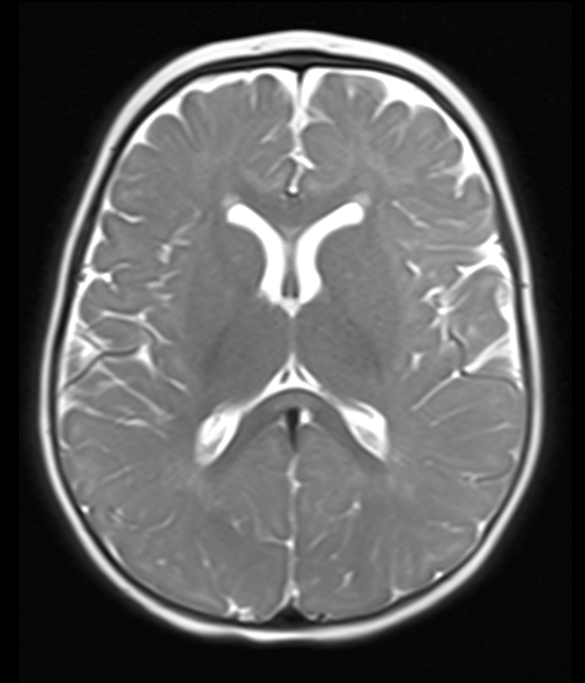


Size of subarachnoid spaces and occurrence of subdural blood/blood products in infants with increasing head circumference. ***Preliminary results.***

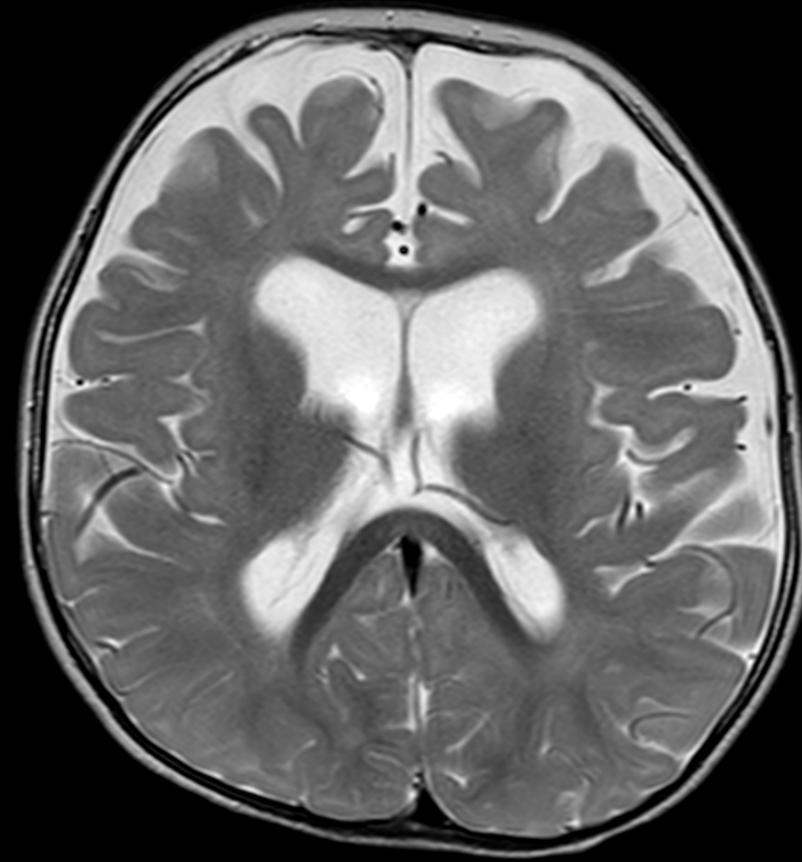


Maria Olsen Fossmark, Josephine Bommer-Skogstad, Anke Neukamm, Gry Inger Nerås Behzadi, Siren Irene Rettedal, Lene Nymo Trulsen, Stein Magnus Aukland, Karen Rosendahl



Background

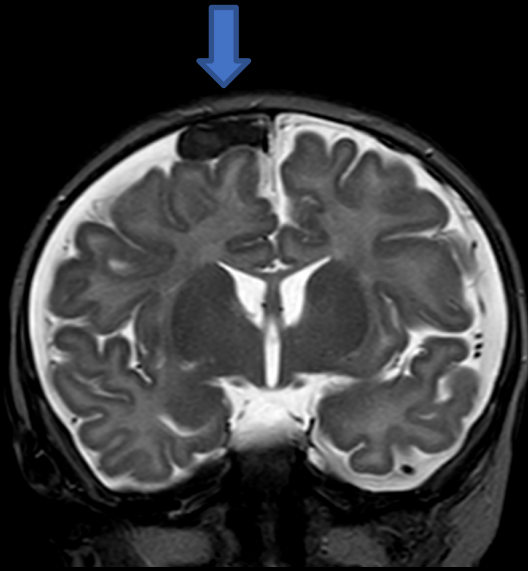
- Some of the infants with increasing head circumference will have benign enlargement of the subarachnoid spaces (BESS)
- No agreed definition on the criteria of BESS



T2-weighted MRI, child with enlarged subarachnoid spaces

Background

- BESS predisposes to subdural bleeding?
- Subdural haematoma is significantly associated with abusive head trauma in young children



T2-weighted MRI, child with bilateral subdural hematomas



SWI with bilateral subdural hemosiderin deposits

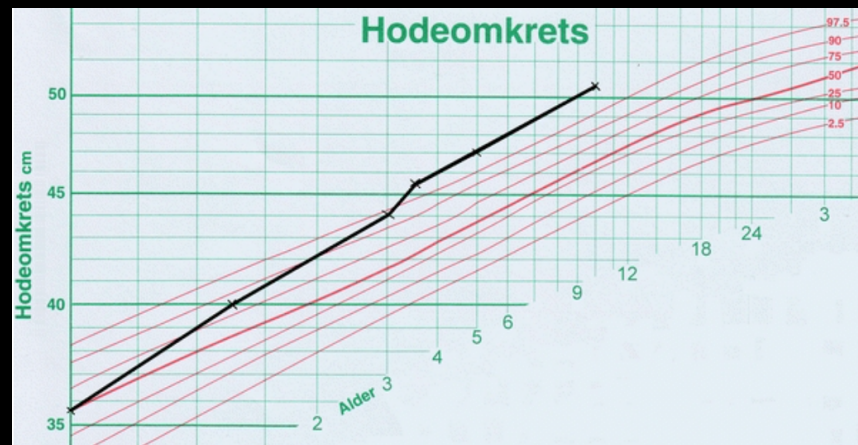
Aim

- Investigate the size of subarachnoid spaces and occurrence of subdural blood/blood products in infants with increasing head circumference



Material

- Inclusion 2021-2024
- 150 infants 2-12 months of age
- Seen at the outpatient clinics at five of the Norwegian University hospitals
- Increasing head circumference (crossing 2 centiles)

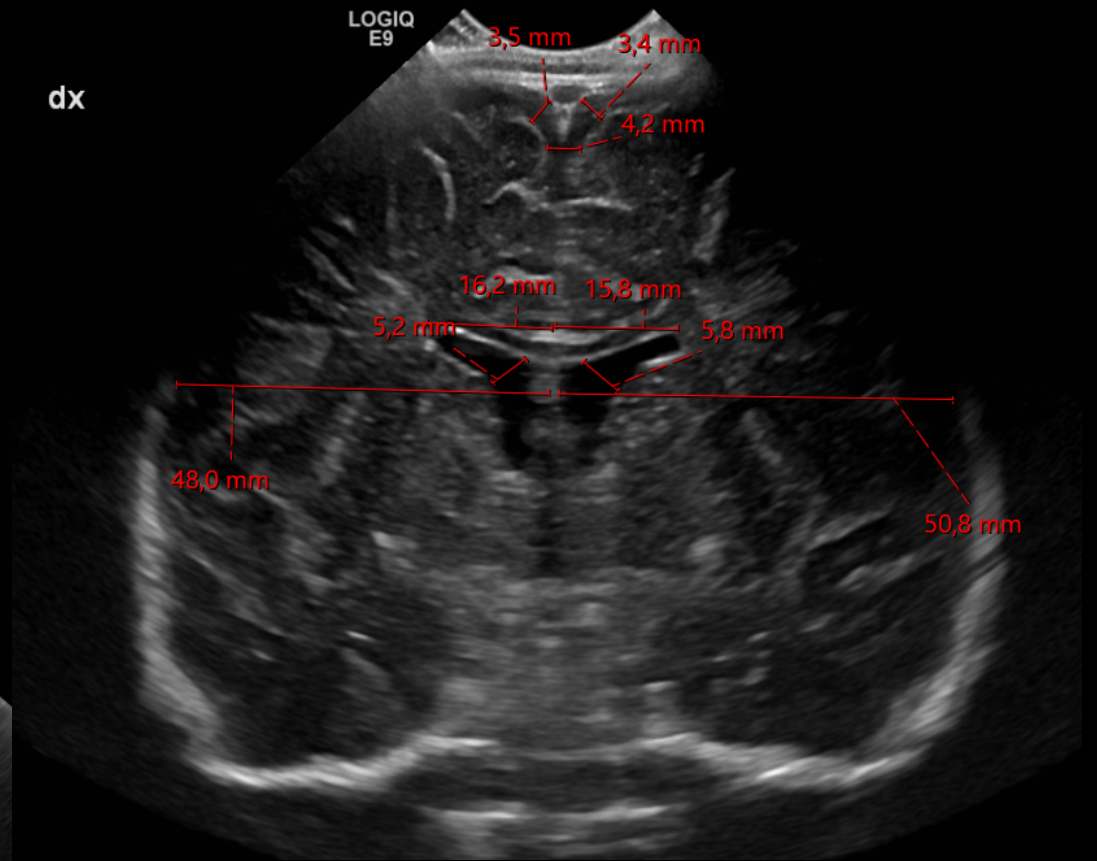
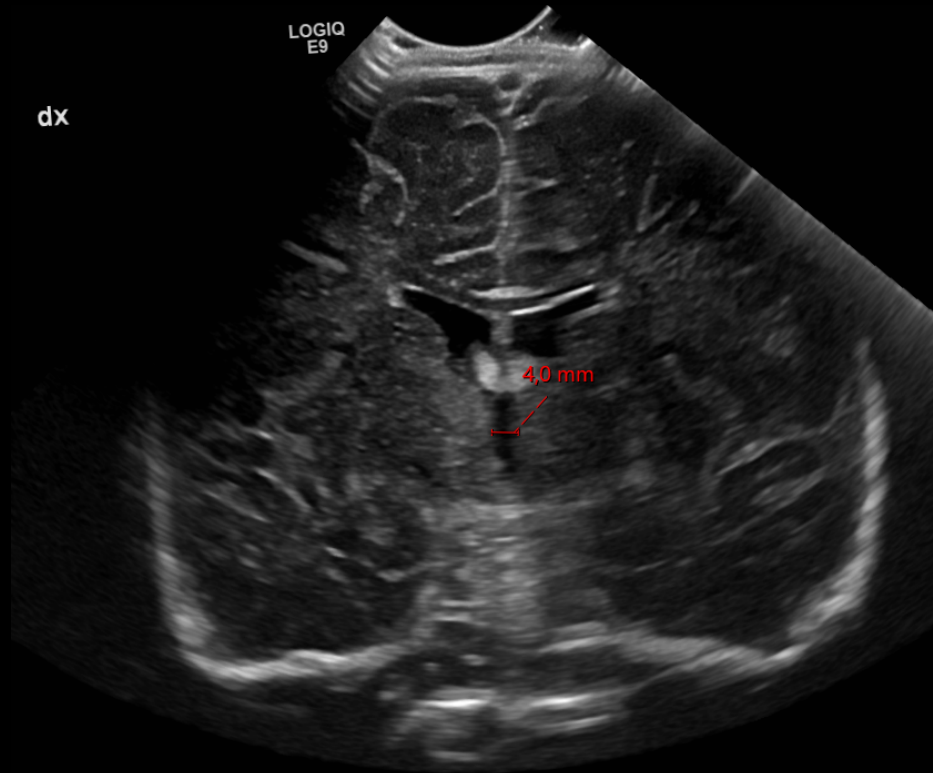


Material

- Excluded: infants born prematurely, and with known, medical conditions that may involve the CNS.
- Data on maternal conditions and medication, delivery, intrauterine posture, the child's age, sex, birth weight/length/head circumference and previous injuries
- Ethnicity, developmental issues, symptoms related to increased intracranial pressure, head circumference, weight and length.

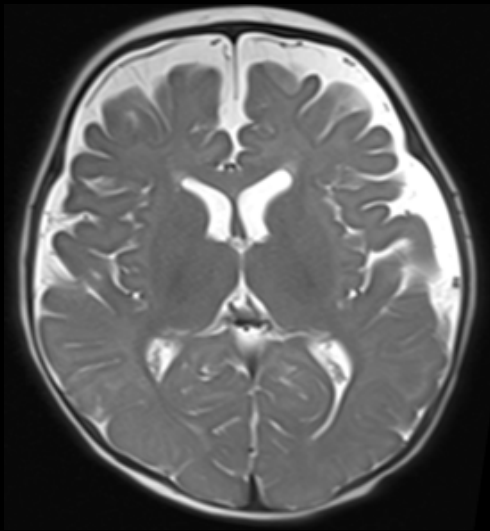
Method

- Head ultrasound

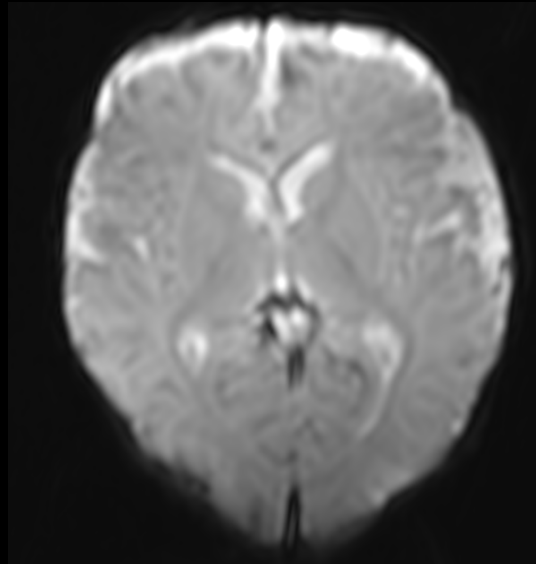


Method

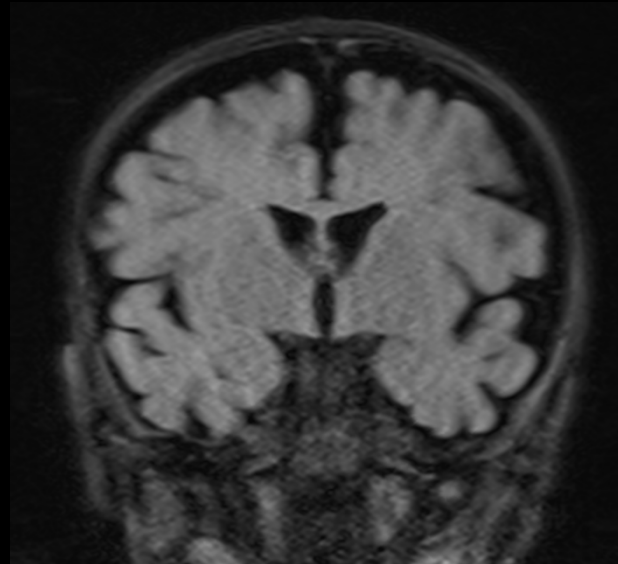
- Limited rapid MRI brain protocol



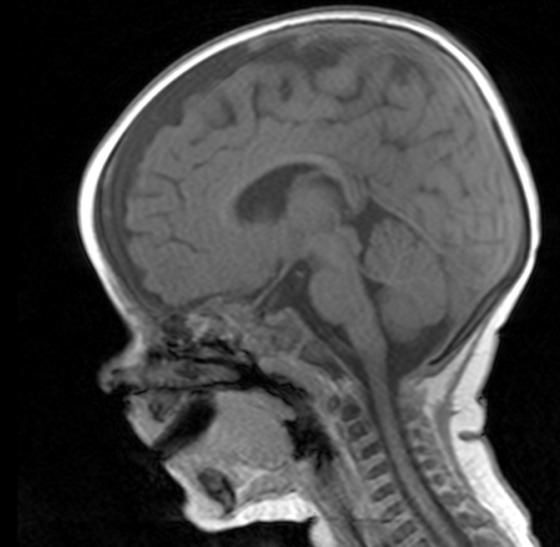
T2-w SS-FSE
For CSF



T2-w GRE
Hemosiderin deposits



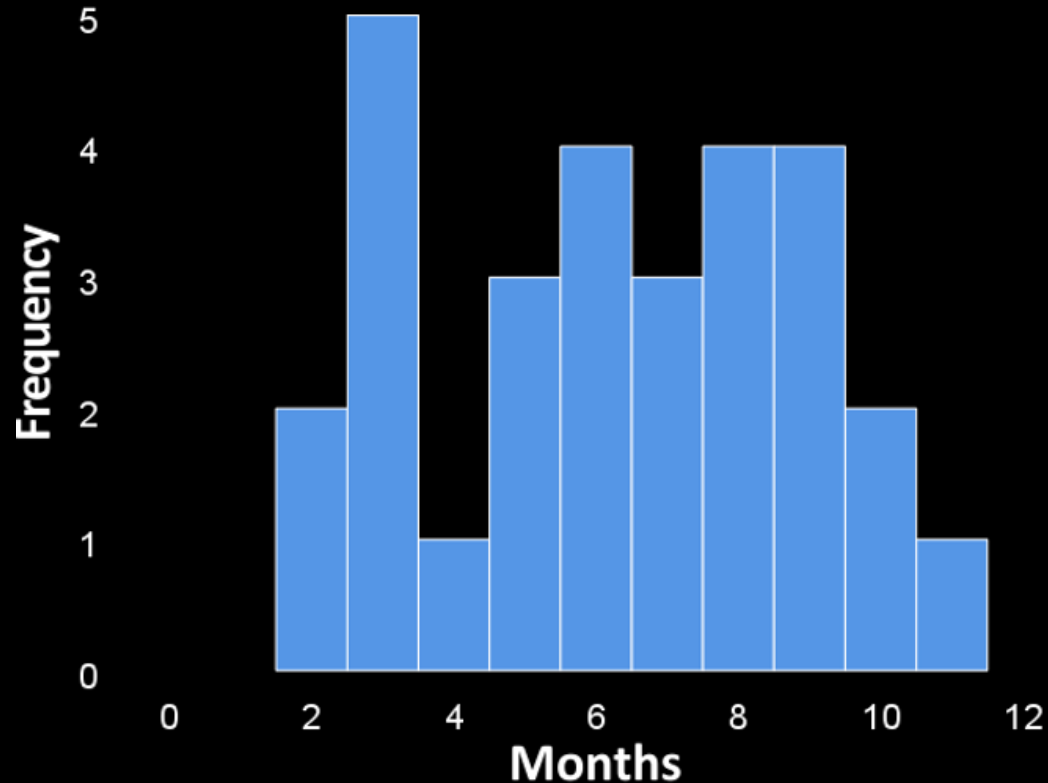
T2-FLAIR SS-FSE
SDH



T1-w GRE
SDH

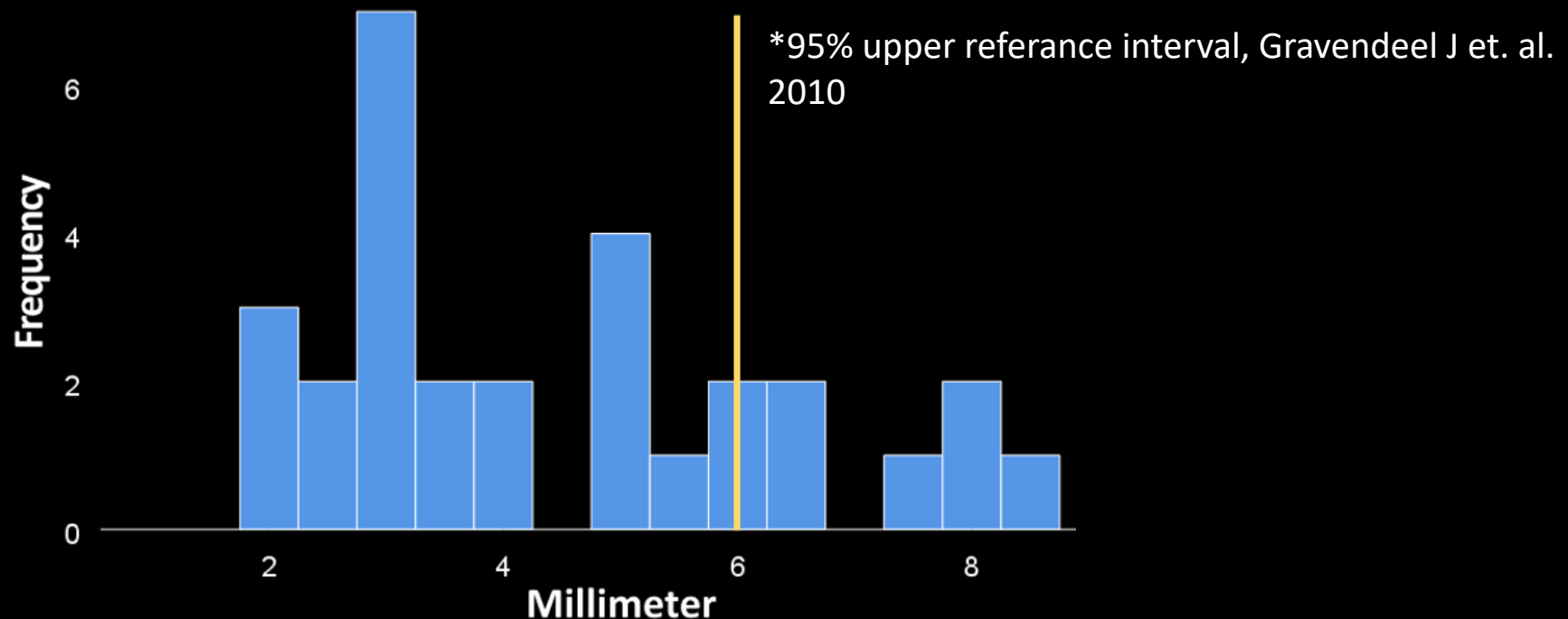
Preliminary results

- Examined 44 infants, of which 30 (10 girls) had MRIs of adequate quality
- Mean age 6,3 months, SD 2,6 months



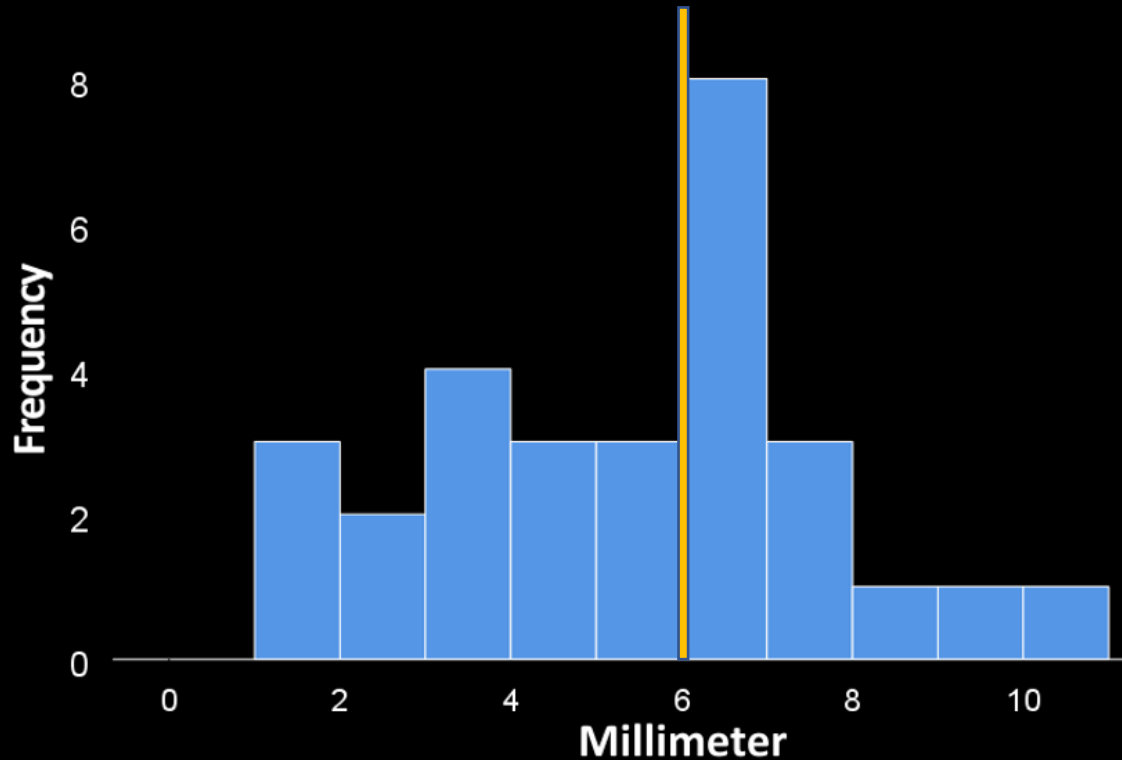
Preliminary results – subarachnoid space depth

- In 8 (26,7%) of the infants (mean age 6,2 months, 3 girls) the subarachnoid depth was above the 95% reference interval for age



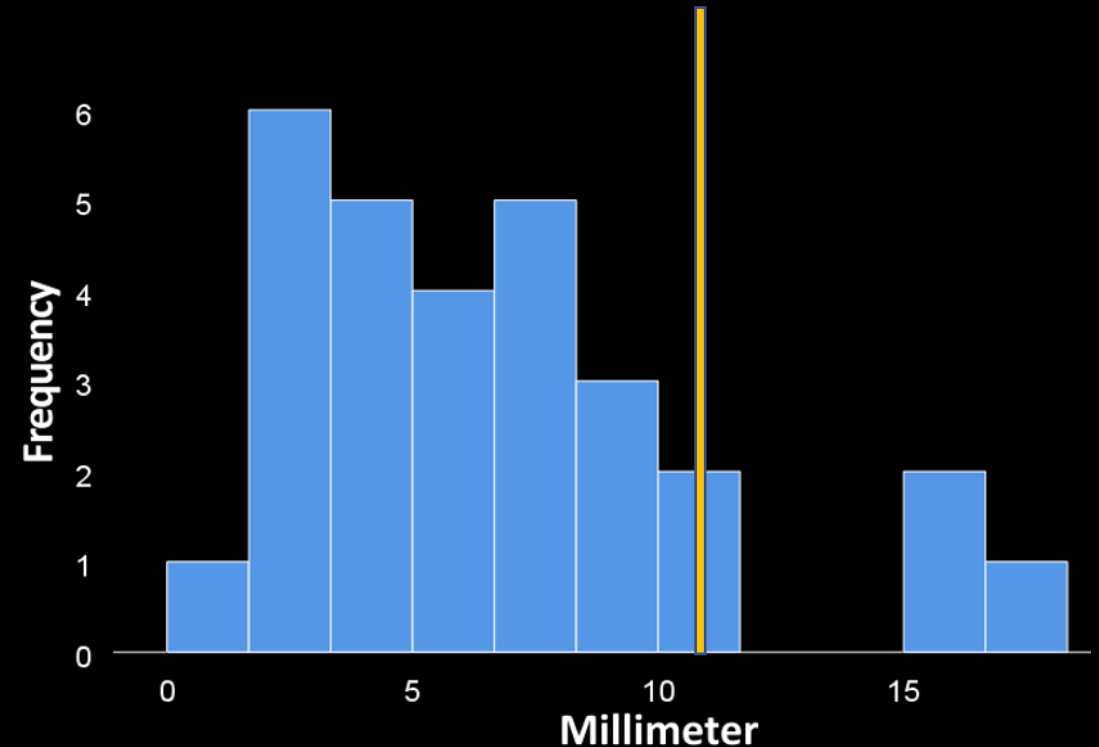
Preliminary results

Interhemispheric distance



14 with interhemispheric distance above 95% reference interval.
Mean = 5,2 mm (SD = 2,3 mm)

Depth left lateral ventricle



4 with depth of left lateral ventricle above 95% reference interval.
Mean = 6,7 mm (SD = 4 mm)

Preliminary results

- No haemorrhage or hemosiderin products were seen on MRI

Conclusions

- More than ¼ of infants with increasing head circumference crossing 2 centiles had wide subarachnoid spaces
- To date (n=30), none of the infants examined had a bleed or blood products



Thank you!



Tromsø, Norway