



**Screening of Head
Ultrasonography on Newborn at
NMCHC
Over 1 year**

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Introduction

All newborn have or haven't more likelihood of having neurological abnormalities due to intracranial haemorrhages , perinatal asphyxia and congenital anomalies. Early recognition of these conditions is important for proper management and follow up. Cranial ultrasonography can be used to diagnose such conditions at the bedside or stay with parents.

Aim

The present study was undertaken with objective of detecting and grading brain injuries using Trans fontanel echography to evaluate the possible use in determining the prognosis and outcome at the end of the study.

Materials and Methods

This was a retrospective study conducted over a one year period in NMCHC, Phnom Penh Cambodia . A total of 3393 newborn babies with suspected neurological injuries or haven't neurological signs and parents can pay for screening . were included in this study . Trans fontanel Ultrasound was carried out within 1 years of birth and at the end of years follow-up was done .

Results

Screening newborn 3393 case has abnormalities is 442 cases = **13.0268%** in the present study.

—265 cases=**59.954%** of these had evidence of intra ventricular haemorrhagic grade I

— 128cases=**28.9592%** Intraventricular haemorrhagic grade II.

— 12cases=**0.2714%** had ventriculomegaly

— 6 cases=**0.1357%** had severe Hydrocephalus.

—5 cases= **0.1131%** had periventricular leukomalacia.

—8cases= **0.1809%** had brain oedema

—18cases= **0.4007%** had brain kyste arachynoid
+ Subepamdymal

Brain Ultrasound	Number (442)	Percentage (13.0268%)
Hemorrahageic Grade I	265	59.954 %
Hemorrahageic Grade II	128	28.9542%
Ventriculomegaly	18	1.6 %
Leucomalacie	5	0.1131%
Brain edema	8	0.1809%
kyste arachynoid + Subep	18	0.4007%

Mensurations

Ventricules :

$\leq 10\text{mm}$ au niveau des carrefours ventriculaires.

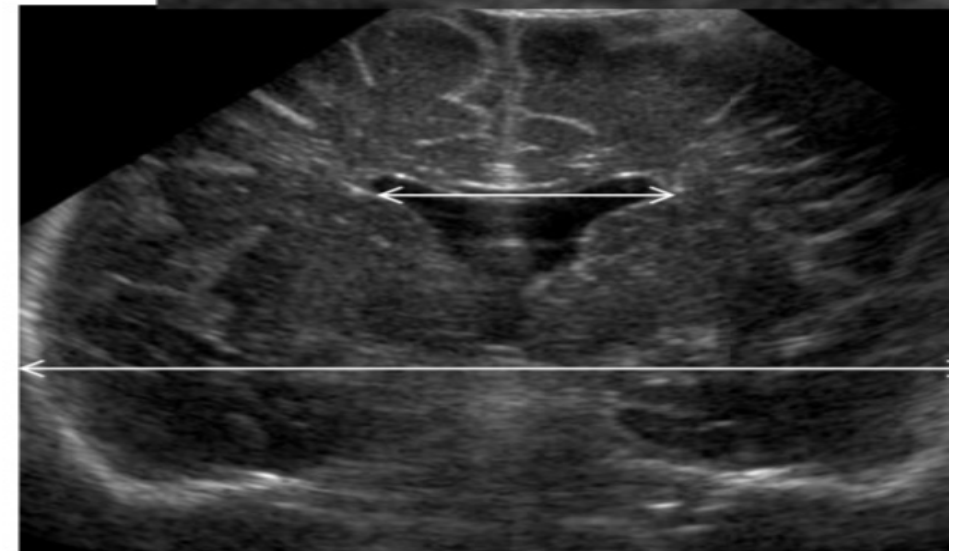
$\leq 5\text{mm}$ au niveau des trous de Monro.

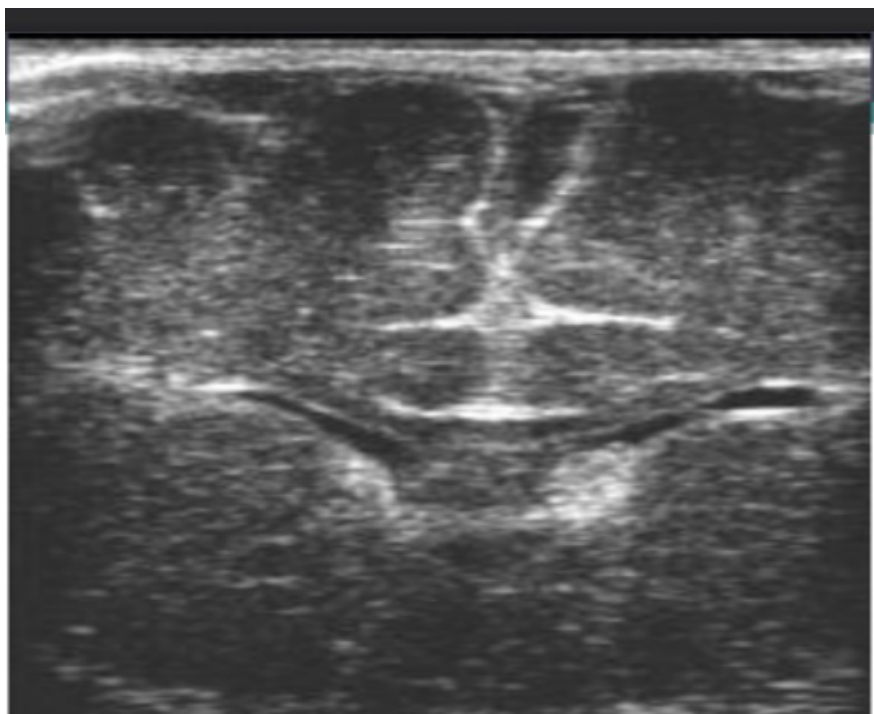
2 à 3mm de diamètre transversal médial pour le V3.

Rapport d'Evans:

$$\frac{\text{Largeur max des cornes frontales}}{\text{Largeur max du crâne}} \leq 0,31$$

souvent compris entre 0,16 et 0,29

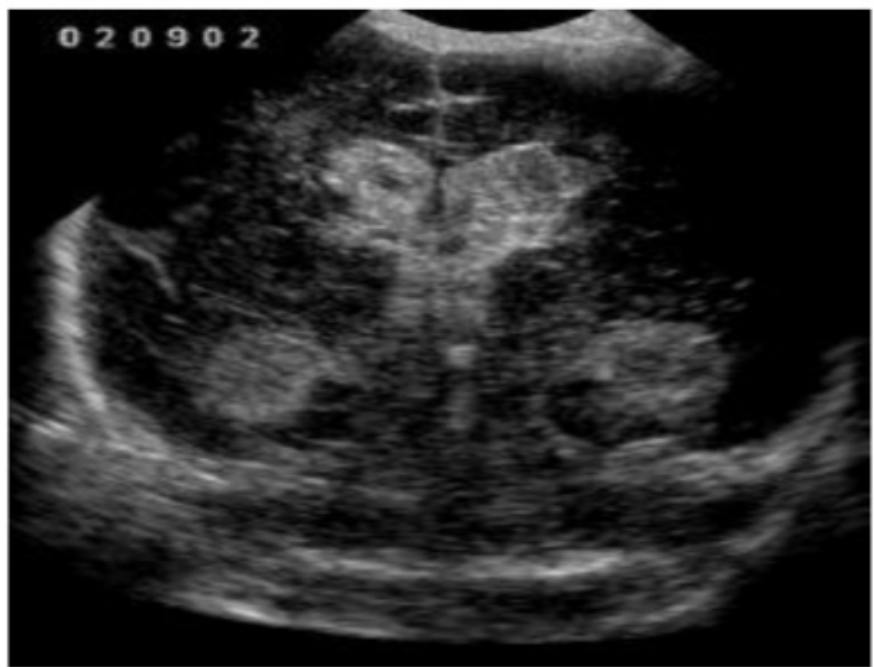




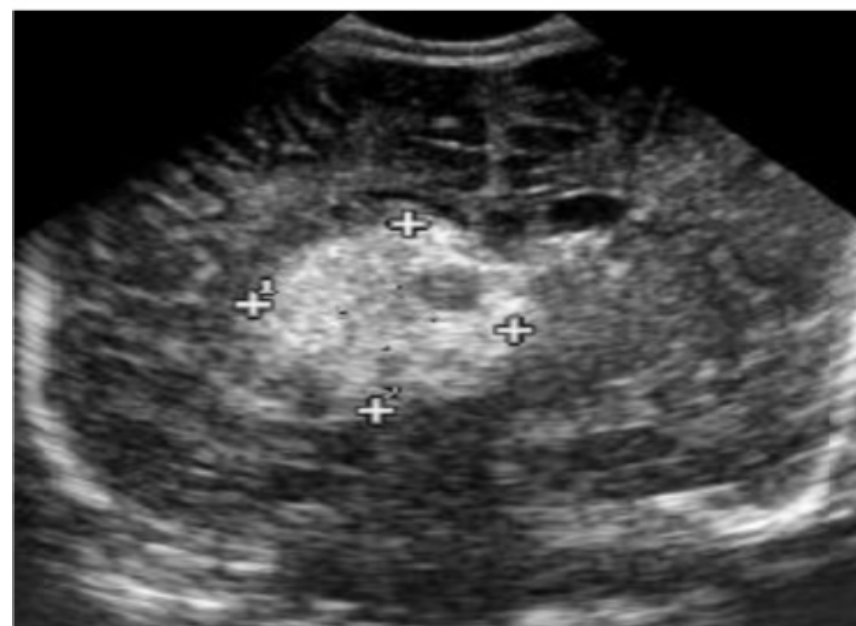
Grade I: sous-épendymaire



Grade II: intra ventriculaire

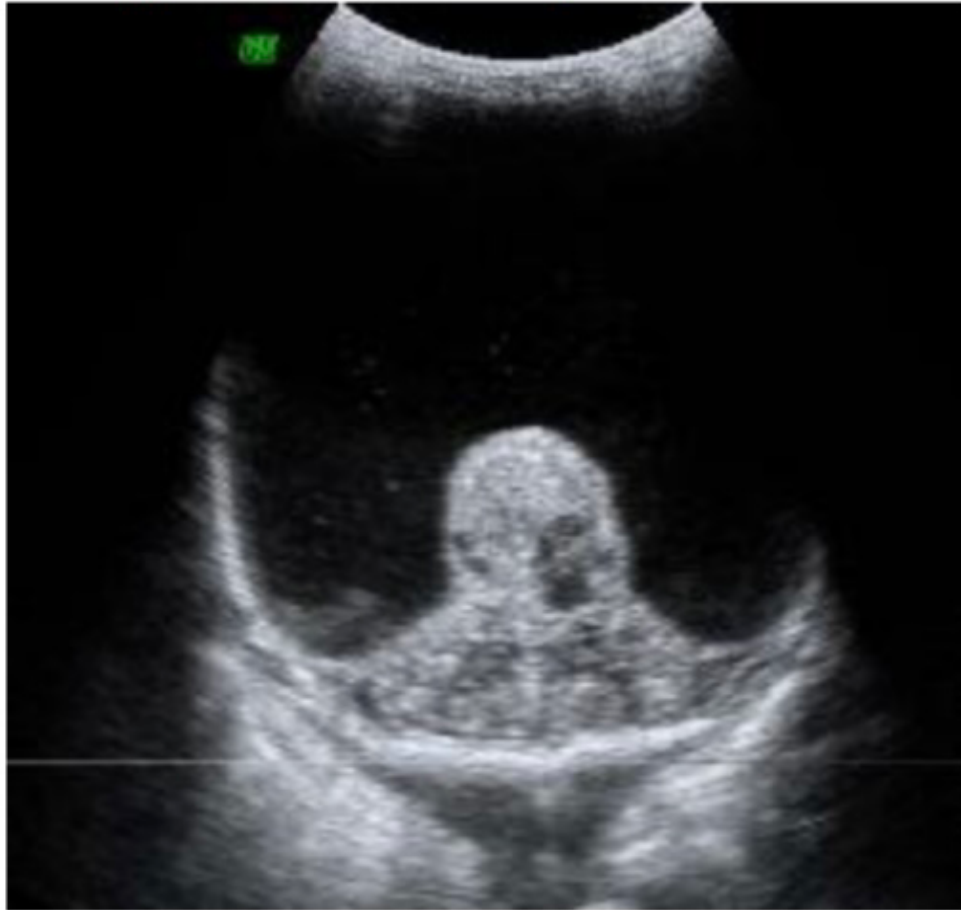


**Grade III: intra ventriculaire
abondante**



**Grade IV:
lésions parenchymateuses associée**

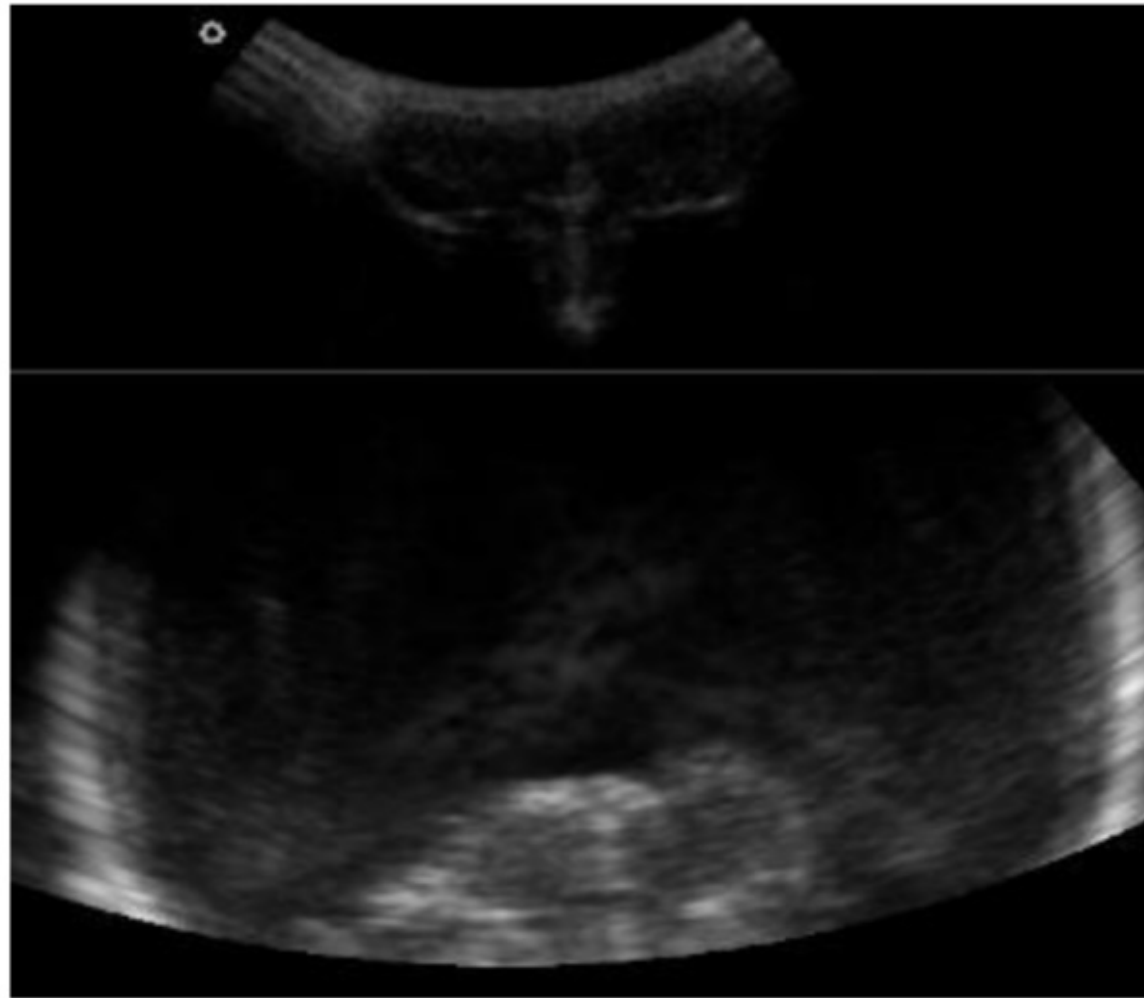
Hydranencéphalie



Hémisphères cérébraux non développés, remplacés par du Liquide cérébraux spinal.

Fosse cérébral postérieure sans anomalie.

Holoprosencéphalie



Cavité ventriculaire unique avec persistance d'une lame parenchymateuse au niveau frontal, et fusion thalamique.

Discussiin

Brain Ultrasound	Salon Hospital (India)	NMCHC
Hemorrahageic Grade I	27.4%	59.954%
Hemorrahageic Grade II	1.2%	28.9542%
Ventriculomegaly	1.6%	0.2714%
Leucomalacie	1.6%	0.1131%
Brain edema	1.6%	0.1809%
kyste arachynoid + Subep		0.4007%

Conclusion

Brain Ultrasound is the best initial method of investigation for Newborn babies with suspected neurological injuries or not. It is best to perform Head Ultrasound studies on Newborn babies within 1 week of birth and follow-up at the end of 1.5 months, Transfer to specialize. It is non-invasive, non-ionising, widely available, cheap and repeatable.

Recommendation

Who must be to do Head ultrasound

- All preterm baby
- Vacuum baby
- Small head or big head.
- The baby that has Hydrocephalus or Congenital Malformation at ANC
- All baby have neurological signs or Bulging fontanel
- C/Section and NVD Should do head ultrasound
Because most of the women that come to get C/section or NVD not Come for ANC at NMCHC

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THANK YOU