

태아통합컨퍼런스

소아청소년과
NICU . F 김혜선

2019.05.20

Patient Information

➤ 오오미 아기 (42235463 / F)

- Date of Birth: 2019.05.09 , 09:39
- Inborn , normal pregnancy, VD
- Gestational age 39+2weeks
- Birth weight : 3690g (75-90p)
- Height 53.5m (>90p)
- Head circumference : 32.5cm (10-25p)
- Apgar score (1min/5min) : (9/10)

Maternal History

- 산모나이 : 34세
- Para : (0) - (1) - (0)(,) - (1)(0,1)
- 산모 혈액형 : O+
- 임신중 투약력/흡연력/음주력 (-/-/-)
- 임신성 당뇨병/임신중 고혈압/본태성 고혈압 (-/-/-)
- 혈청학 검사 : HBsAg/ HBsAb /VDRL /anti-HIV (-/+/-/-)
- PROM : No
- Oligohydramnios : No

Fetal ultrasound(last)

- PN check하던 병원에서 4/30 처음으로 brain anomaly 소견 보여 본원 외래 진료 후 MFICU 입원 .
- * **4.7*3.6cm sized** anechoic lesion in **MCA area (left), wedge shaped**, no mass effect. no midline shift
- * Heart evaluation limited d/t fetal position
- * Circle of willis 혈관의 pulsation이 promient하게 관찰됨 (r/o fetal hypertension?)
- * MCA PSV: 63.42 64.35 66.12 69.09

PA 38+4 wks c r/o porencephaly
r/o schizencephaly
r/o arachnoid cyst

Present illness

GA 39+2wks, 3.69kg, V/D, A/S 9/10 출생

GA 38+0일 시행한 산전 초음파 상 r/o porencephaly, r/o schizencephaly, r/o Arachnoid cyst 진단된 환아로 소아과 의사 attending없이 출생함.

출생 후 initial crying 양호하고 activity 좋으며, skin pinkish 하였고 HR100회 이상 확인되어 A/S 9/10점으로 resuscitation 없이 RA에서 NICU입실

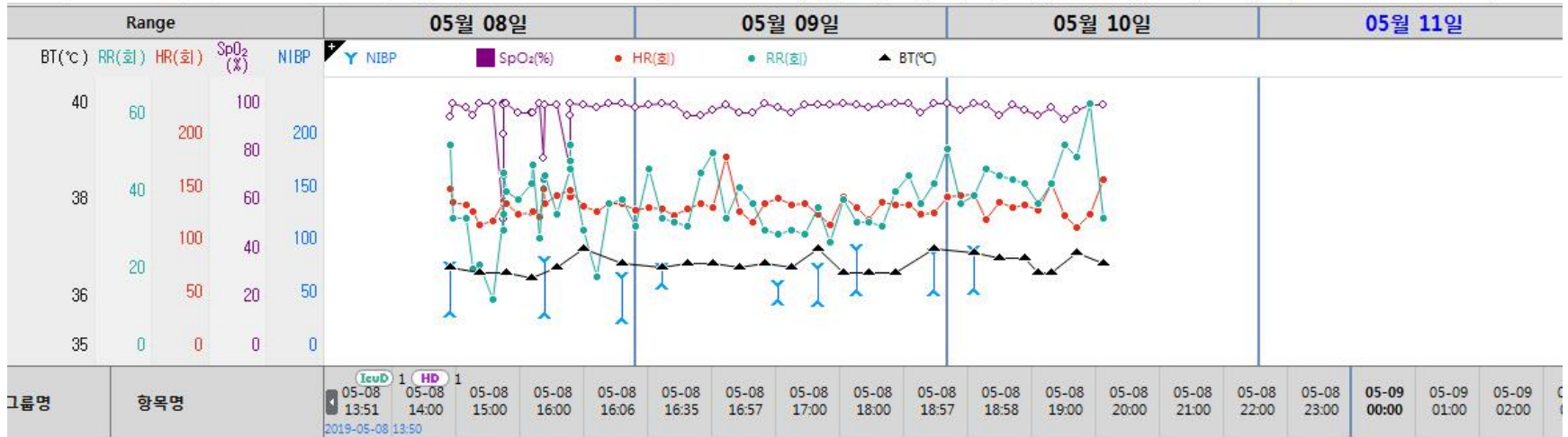
Physical examination

- **Initial Vital sign**

- Blood pressure: 73/32(48) mmHg
- Heart rate: 148 bpm
- Respiratory rate: 52 bpm
- Body temperature 36.6°C
- SpO2 94%

(생후 4시간동안 desaturation 52% ,87% 2회 있었으나 self 로 recovery 된 이후로 체온유지시켜주며 obs. po feeding 시 77% 까지 2회 desat + → 이후 99% 이상 지속적으로 stable 하게 유지)

간 << 2019-05-08 ~ 2019-05-12 >> Actual 24개 신체계측> BST> ALL> 06시부터 24시간 I/O



활력징후 및 event

SpO2	SpO ₂ (%)	99	100	96	96	96	100	77	99	99	72	95	100	99	98	100	100	98	99	100
	자극방법							Self			Self									
Event	Event-1																			
	Event-2							po			po		warm off							
	apnea																			
	X-ray (Portable)																			
	보호자교육																			
수혈	수혈flow						이름:Se...	이름:ret...	면회:부											
	혈액종류																			
NIBP	NIBP_수축기(mmHg)								78							63			72	
	NIBP_이완기(mmHg)								31							26			59	
	NIBP_평균(mmHg)								48							42			64	

Physical examination

- **General Appearance**

- Active

- **HEENT**

- Nasal flaring (-)
- moaning (-)

- **Chest**

- Chest retraction (-)
- Regular heart beat

- **Abdomen**

- Soft and distended(-)

- **External genitalia**

- female

- **Extremities**

- Hip dislocation (-)



Initial laboratory finding

검사명	단위	2019-05-08 11:17	2019-05-08 11:21
WBC Count, Blood	$\times 10^3/\mu\text{L}$		▲13.65
RBC Count, Blood	$\times 10^6/\mu\text{L}$		4.19
Hemoglobin, Blood	g/dL		▲15.5
Hematocrit, Blood	%		▲46.8
MCV (Mean Corpuscular Volu...	fL		▲111.7
MCH (Mean Corpuscular Hem...	pg		▲37.0
MCHC (Mean Corpuscular He...	g/dL		33.1
Platelet Count, Blood	$\times 10^3/\mu\text{L}$		252
Blast	%		0
Promyelocyte	%		0
Myelocyte	%		0
Metamyelocyte	%		▲1
Band neutrophil	%		1
Segmented neutrophil	%		53
Eosinophil	%		2
Basophil	%		0
Lymphocyte	%		32
Monocyte	%		▲11
Atypical Lymphocyte	%		0
Immature cell	%		0
Plasma cell	%		0
Nucleated RBC	/100WBC		▲12
ANC (Absolute Neutrophil Co...	$\times 10^3/\mu\text{L}$		7.37
ALC (Absolute Lymphocyte Co...	$\times 10^3/\mu\text{L}$		4.37

Initial laboratory finding

Protein, Total	g/dℓ	▼5.1
Albumin	g/dℓ	3.5
Globulin	g/dℓ	▼1.6
A/G ratio		2.1
Cholesterol	mg/dℓ	66
Bilirubin, Total	mg/dℓ	▲1.8
AST	U/ℓ	▲33
ALT	U/ℓ	8
ALP	U/ℓ	▲130
Glucose, Fasting	mg/dℓ	▼61
BUN	mg/dℓ	▼4.9
Creatinine	mg/dℓ	▼0.4
BUN & Creatinine ratio		▼12.3
Estimated GFR	mL/min...	60.2
Uric Acid	mg/dℓ	4.5
Ca	mg/dℓ	10.0
P	mg/dℓ	▲5.2
Na	mmol/ℓ	142
Potassium (K)	mmol/ℓ	4.4
Cl	mmol/ℓ	▲108
Mg	mg/dℓ	1.8
CRP, Quantitative (High Sensiti...	mg/dℓ	0.03

*Initial GAS
PH/pCO₂/HCO₃/BE
7.371/45.6/25.8/0.1

*NST/TMS (-/-)

*Blood culture : NG

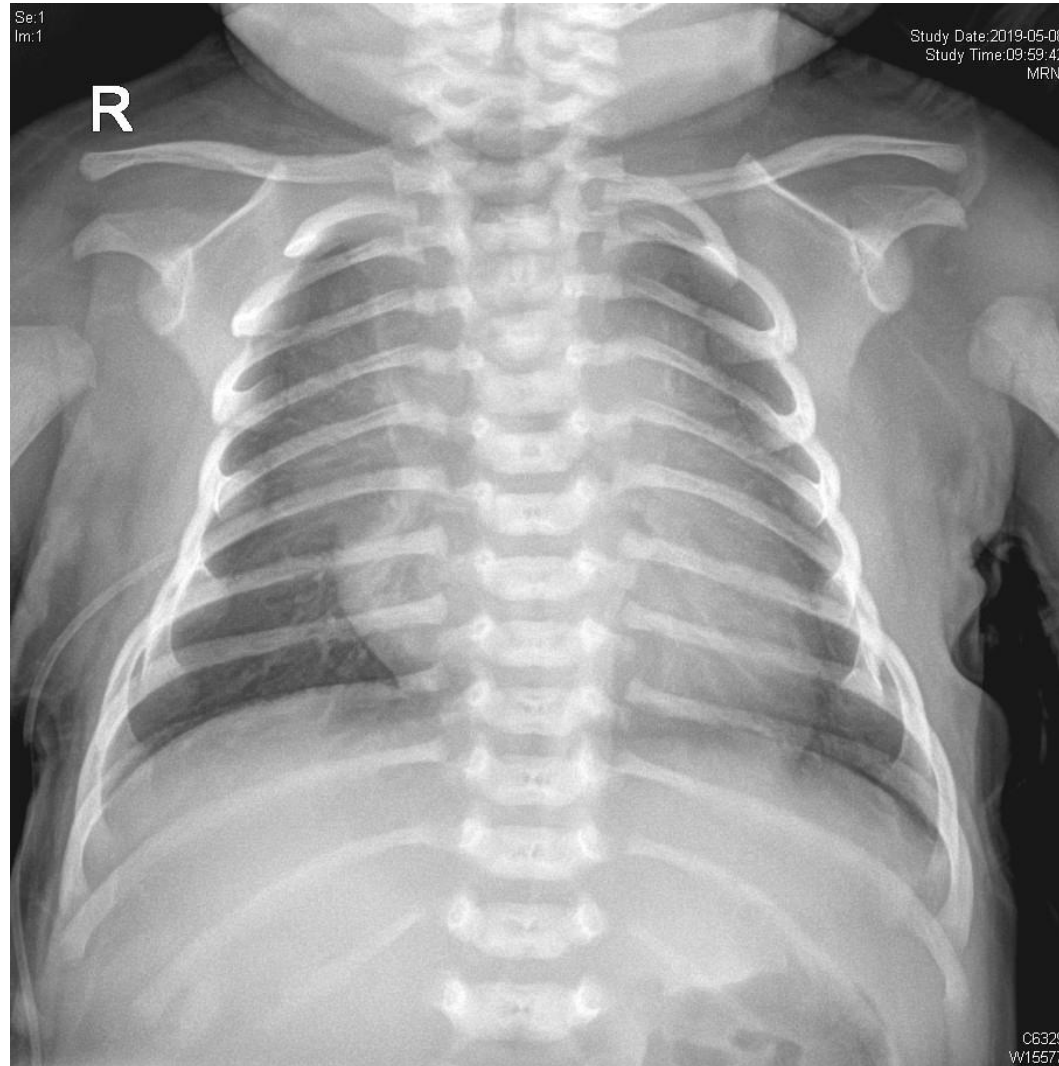
*Nasal/skin : NG

*TORCH : negative

*Chromosome(cord blood) :
Karyotype : 46,XX

*both BERA : pass

chest x-ray (HD#1)



Hospital course

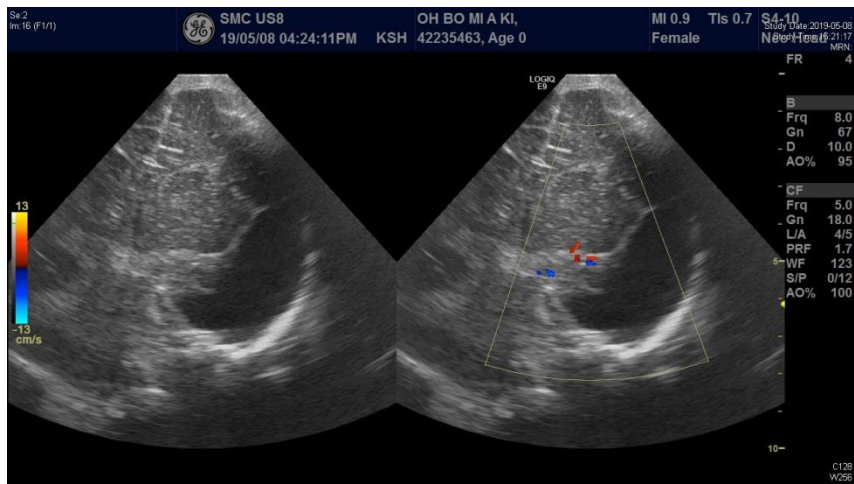
- 2019.05.08 NICU 입실, initial evaluation
출생 당일 Bradycardia 동반하지 않은
Desaturation 3-4회 정도 관찰되었으나
이후 더이상 관찰되지 않음
Brain US 시행
Feeding 30cc start(WM/BM, PO)
- 2019.05.08 BERA 시행, HBV vaccine 접종
- 2019.05.10 NST/TMS 시행
v/s stable하고 oral feeding, weight gain 양호하여
보호자 교육 후 퇴원

Brain Ultrasound

- Left middle cranial fossa, left temporal convexity에 약 4.5 x 2.5 cm 정도로 measure 되는 cystic한 lesion 이 보이고 있으며 arachnoid cyst로 생각됨. 그 외 scan된 brain에 hemorrhage 소견 없으며 parenchymal echogenicity가 정상 범위 내에 있음.
- Cisterna magna가 prominent 함.

결론

- 1. Arachnoid cyst in the left middle cranial fossa.
- 2. Prominent cisterna magna.



Final diagnosis

- **Arachnoid cyst**
in the left middle cranial fossa.

Plan

- 성장 발달이 정상인지 추적이 필요(인지, 운동 2-4세까지)
- 앞으로 시각 청각이 문제 없는지 경과관찰 필요
- Sz. 없는지 경과관찰 필요
- Brain MRI 검사 결과를 확인할 수 있는 시기에 소아신경 외래에서 신경학적 증상에 대한 경과 관찰 및 결과 확인예정

Fetal arachnoid cyst

- Diagnosed between 20 and 30 wks of GA with the remaining 45% after 30 wks.
- Most commonly, they are found within the middle cranial fossa with an incidence of 42%
- Diagnosis was made by ultrasound scan and MRI
- Good prognosis in 88% of the cases in terms of behavior, neurological development, and intelligence.

(prognosis depends largely on the site and on the extent of the lesion)

Cysts in the left middle cranial fossa

- Cysts in the left middle cranial fossa have been associated with ADHD in a study on affected children.
- Headaches
- Seizures
- Hydrocephalus (excessive accumulation of cerebrospinal fluid)
- Increased intracranial pressure
- Developmental delay
- Behavioral changes
- Nausea
- Hemiparesis (weakness or paralysis on one side of the body)
- Ataxia (lack of muscle control)
- Musical hallucination
- Pre-senile dementia, a condition often associated with Alzheimer's disease

Complications of an arachnoid cyst

- Sometimes, an arachnoid cyst can compress the channels or openings → Excess fluid then builds up in the baby's brain, resulting in conditions like **ventriculomegaly (enlarged ventricles) or hydrocephalus (excess fluid on the brain).**
- Associated hydrocephalus is present in more than 30% of cases of arachnoid cysts but, unless it is significant, the pregnancy likely will not be affected.
- **Abnormalities outside of the brain are not commonly seen**

Ref.

- ✓ *The cysts can be found in different brain compartments*
Fetal intracranial cysts: prenatal diagnosis and outcome
Journal of Prenatal Medicine 2009; 3 (2): 28-30 29
E.M. Pappalardo et al.
- ✓ *Colorado childrens hospital*