

The Inquiry into Hyponatraemia-related Deaths

Chairman: Mr John O'Hara QC

Angela Crawford
Directorate of Legal Services
2 Franklin Street
BELFAST
BT2 8DQ

Your Ref: NSCB04/1
NSCW50/1
NSCS071/1

Our Ref: HW-0007-12

Date: 1st June 2012

Dear Ms Crawford,

Re: Claire Roberts

Thank you for forwarding the witness statement of Dr Herron (WS 224/3) dated 16th May 2012. A number of queries have arisen as a result of Dr Herron's statement and we would be grateful if the Trust could respond to the following:

1. At p. 6, answer to Q.5(a) and at p.25, answer to Q.23(e)(v)

"The paperwork suggests that Claire's case was to be discussed at one of these NSU [Neuroscience Grand Rounds] meetings."

"[I]t is likely that the case was to be discussed at the...(NSU) and the slides were being prepared in anticipation of that meeting."

Please confirm if Claire's case was discussed at any paediatric mortality/morbidity meeting or any NSU meeting, the dates of such meetings, who attended any such meeting and by whom Claire's case was presented at any meeting. Please provide any documents relating to any relevant meetings e.g. notes, agendas, minutes, action points, etc and all documents relating to any presentation of her case.

2. At p. 7, answer to Q.5(b)

"[I]t was the policy of the Department to record the junior doctor's name on an autopsy report. This policy has changed. It is now the consultant pathologist who is named on any report as they take ultimate responsibility for the report."

Please confirm at what date the policy changed and what the reasons were for this change.

3. At p. 7, answer to Q.5(h)

Please provide the Inquiry with a copy of the signed final autopsy report and the name of the clinician that this signed report to whom the report was actually sent, and/or to whom it would have been sent.

4. At p. 10, answer to Q.7(d)

Secretary: Bernie Conlon

Arthur House, 41 Arthur Street, Belfast, BT1 4GB

Email: inquiry@ihrdni.org **Website:** www.ihrdni.org **Tel:** 028 9044 6340 **Fax:** 028 9044 6341

Please confirm that the 'Provisional Anatomical Summary' provided to the Inquiry is a copy of the original report in its entirety, if not please provide a copy of the original.

5. At p. 14, answer to Q.13(i)-(ii)

Please confirm that the Inquiry has been forwarded all the documents relating to the Post-Mortem, including all the papers that *"were retrieved from off-site storage"* and the *"draft reports edited"* by Dr Mirakhur.

6. At p. 18, Q. 16(a)-(b)

"There is only one of 2 pages and it is not signed or dated."

Please provide the Inquiry with a complete set of signed and dated documents relating to the Chest X-Ray and confirm to whom this report was sent, how it was sent and on what date.

7. At p. 26, Q.23(i)(iii)

"I understand that the tissue was irrevocably damaged by a number of freezer failures between 2007 and 2009."

Please provide dates of all 'freezer failures' that affected the frozen brain tissue of Claire Roberts. We note that the sample was checked on 6th March 2007 for inventory purposes by initials 'JM'. We enclose Inquiry document ref: 090-054-196 for your convenience.

8. Please forward to the Inquiry the response to the letter dated 25th August 2011 from Dr Herron to the Coroner, Mr John Leckey at p. 41.

9. Please provide a copy of the *"Inventory"* as stated at p. 28, Q. 23(l)(ii).

10. Please provide a copy of the *"Autopsy Request Form"* as stated at p. 29, Q.23(m)(i).

11. Please provide a copy of the chart that is referred to in the form in *"INVESTIGATIONS: See Chart"* at p. 30, Q.23 (m)(vi).

I would be grateful if this information is provided to the Inquiry by 15th June 2012.

Yours sincerely,



Htaik Win
Assistant Solicitor to the Inquiry
Enc



Business Services
Organisation

Directorate of Legal Services

— PRACTITIONERS IN LAW TO THE
HEALTH & SOCIAL CARE SECTOR —

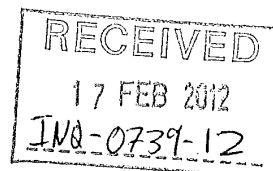
2 Franklin Street, Belfast, BT2 8DQ
DX 2842 NR Belfast 3

Your Ref:
BPC-0096-12
BPC-0067-11
BPC-0113-12
BPC-0135-12

Our Ref:
HYP B4/02

Date:
15.02.12

Mr B Cullen
Solicitor to the Inquiry
Arthur House
41 Arthur Street
Belfast
BT1 4GB



Dear Sir,

RE: INQUIRY INTO HYPONATRAEMIA RELATED DEATHS

I refer to the above and your letters of 9th January 2012 (BPC-0096-12), 26th January 2012 (BPC-0113-12) and 13th February 2012 (BPC-0135-12).

I now enclose a copy of the notes and records in the possession of the Regional Neuropathology Service in relation to the autopsy carried out on Claire Roberts.

Yours faithfully,

Joanna Bolton
Solicitor Consultant

Email: [REDACTED]

Tel: (028) [REDACTED]

Providing Support to Health and Social Care



NPPM 114/96

Dr. Hermon

Brain Only

Brain Blocks XII ✓

H+E

Date In

Date O

28/11/96

23rd 1..

Further blocks Dr. Mirk. 31.1.97

1 mammary bodies HE

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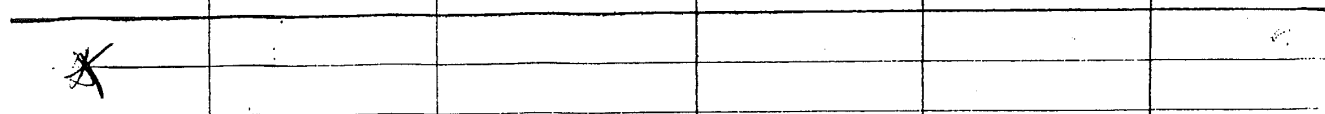
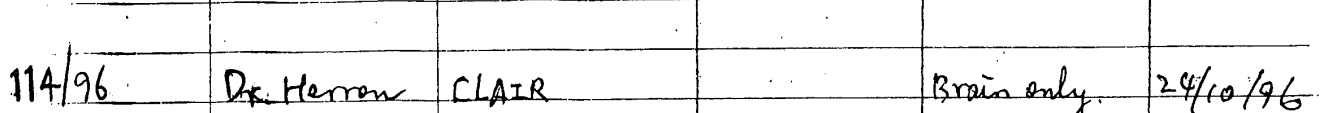
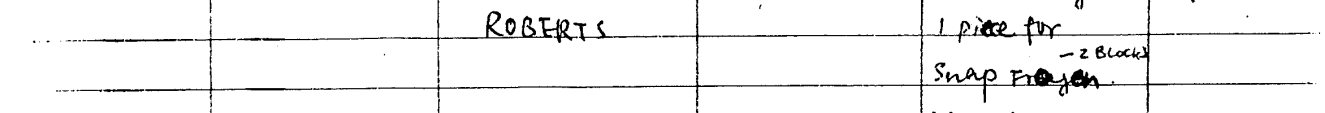
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1/5/97

23/5/9

257

Page No	PATHOLOGIST	Decased	Ward / Hospital No	Specimen Received	Date TM
					
					
					
					
114/96	Dr. Herron	CLAIR ROBERTS		Brain only. 1 piece for - 2 blocks Snap Frozen 1 piece for EM	24/10/96

M.L.S.O.	Diagnosis	Cut up - Notes	Store/out etc
		see overleaf for copy of "note"	AD
LIPING	Viral Encephalitis Epilepsia	Cut-up 28/11/96 - Dr. Heron - Blocked	KPH 28/11/96 Out 24/4/97

NPPM No	PATHOLOGIST	Deceased	Ward / Hospital No	Specimen Received	Date IM

114/96	Dr. Herren	CLAIR ROBERTS		Brain only 1 piece for Snap Frozen - 2 blocks 1 piece for EM	24/10/96

M.L.S.O.	Diagnosis	Cut up - Notes	Store/out etc.
[REDACTED]			
LIPINB	Viral Encephalitis Epilepsia	<p>NPPM 114/96</p> <p>Stained slides → D.Sgt B. Goss for referral to Dr. B. Harding</p> <p>Cut Copies of Parental Consent and Coroner's Information rec'd.</p> <p>Copies of Inventory — B. Goss Sp. Case file Archivist</p> <p>5328</p>	<p>KPH 28/11/91</p> <p>Out 24/4/9</p>
[REDACTED]			

**ROYAL VICTORIA HOSPITAL
AUTOPSY REQUEST FORM**

NAME: Claire Roberts AUTOPSY No: A 114/96
D.o.B.: 10-1-87 SEX: F HOSPITAL No. 328770
CONSULTANT: Dr Webb / Dr Steen WARD: ICU HOSPITAL RBHSC
DATE OF ADMISSION: 22-10-96 DATE OF DEATH: 23-10-96
DATE OF AUTOPSY: _____ TIME OF AUTOPSY: _____
TIME COMPLETE REQUEST RECEIVED IN MORTUARY: _____

CLINICAL PRESENTATION: (major symptoms)

9 1/2 year old girl - a history of mental handicap admitted with increasing drowsiness and vomiting.

HISTORY OF PRESENT ILLNESS: Well until 72 hours before admission.

Cousin had vomiting and diarrhoea. She had a few loose stools and then 24 hours prior to admission started to vomit. Speech became slurred and she became increasingly drowsy. Felt to have sub clinical seizures. Treated with rectal diazepam / IV phenytoin / IV valproate. Acyclovir + cefotaxime cover given. Serum Na⁺ dropped to 121 @ 23-30h on 22-10-96. ? Inappropriate ADH secretion. Fluids restricted. Respiratory arrest 0300 23-10-96. Intubated + transferred ICU - CT scan - cerebral oedema. Brain stem death criteria fulfilled @ 0600 + 18.15 hrs. **PAST MEDICAL HISTORY (incl drug therapy):**

Ventilation discontinued 18-4 hrs.

Mental handicap

Seizures from 6 months - 4 years.

INVESTIGATIONS: (include laboratory, ECG, X-ray etc).

See chart.

CLINICAL DIAGNOSIS Cerebral oedema 2° to status epilepticus
? underlying encephalitis

Use back of this sheet if required

LIST CLINICAL PROBLEMS IN ORDER OF IMPORTANCE:

(This list will enable the pathologist to produce a more relevant report.)

- (1) Cerebral Oedema
- (2) Status Epilepticus
- (3) Inappropriate ADH secretion
- (4) Viral encephalitis

DEATH CERTIFICATE: If a death certificate has already been prepared please copy it below for our records.

(1)

Disease or condition directly leading to death:

(1)

(a) Cerebral oedema
due to

Antecedent causes, morbid conditions, if any, giving rise to the above cause, stating the underlying condition last.

(b) Status epilepticus

(c) _____

(2)

Other significant conditions, contributing to the death, but not related to the disease or condition causing it:

Will you or a colleague be attending the review session at 1.45 pm on the day of the autopsy?

YES ☒ NO

Signature of requesting doctor Heather S Skem

Please write your name legibly and give an extension number where you can be contacted Belfast 327613

THE FINDINGS OF THE AUTOPSY WILL BE TELEPHONED TO THIS NUMBER

EASTERN HEALTH AND SOCIAL SERVICES BOARD

10/1/96

14/96

Hospital <i>RHSC</i>	Surname and First Names <i>Robert Clive</i>	Hospital No. <i>328770</i>
Ward or Dept. <i>1114</i>	Physician or Surgeon <i>Dr. Neelke Steen</i>	Sex <i>F</i>
		Age <i>97</i>

I hereby give consent to a ^{limited} Post Mortem examination being carried on the body of *Clive Robert* late of (address) *[redacted]* *Brain only*

I am the nearest living relative of the deceased.

Signature

Address

Relationship to the deceased

Date *23-10-96*

POST MORTEM CONSENT FORM.

AP 430 M.R.42

DOCTOR: S COPY

COMPLETE + SENT
12/2/97.

DEPARTMENT OF NEUROPATHOLOGY
AUTOPSY REPORT

Autopsy No.: NPPM 114/96

Name :	ROBERTS, Claire	Hospital No.:	328770
Age :	9 1/2	Hospital :	R.B.H.S.C.
Sex :	F	Ward :	I.C.U.
Pathologist :	Dr. Herron	Date of Admission :	22/10/96
Clinician :	Dr. Webb/ Dr. Steen	Date of Necropsy :	24/10/96
		Time of Necropsy :	11.30 am
		Date of Death :	23/10/96
		Time of Death :	6.25 hrs
Restrictions :	Brain only		

ANATOMICAL SUMMARY

H/o recent diarrhoea and vomiting, central oedema (brain w/ brain stem necrosis. Subacute inflammatory meninges in perivascular space. 1606g.

CLINICAL SUMMARY

H/o epileptic seizures since 10 months of age, Neuronal migration disorder

She was well until 72 hours before admission. She had visited her cousin who had vomiting and diarrhoea. She had similar symptoms and 24 hours prior to admission started to vomit. Her speech became slurred and she became increasingly drowsy. She was felt to have subclinical seizures. She was treated with rectal Diazepam, intravenous Phenytoin and intravenous Valproate. She also had Acyclovir and Cefotaxime. Her serum sodium dropped to 121 and there was a query of inappropriate ADH secretion. Her fluids were restricted but she had respiratory arrest at 3 am on 23/10/96. She was intubated and transferred to intensive care where a CT scan showed cerebral oedema. Brain stem criteria was fulfilled at 6 am.

In her past history she had iatrogenic epilepsy since 10 months and mental handicap.

BRAIN DESCRIPTION

The fixed brain weighs 1606 g. There is no cortical venous thrombosis and there is no meningeal exudate. There is symmetrical brain swelling with effacement of gyri. There is uncus prominence but no necrosis.

On sectioning of the brain the presence of diffuse brain swelling is confirmed. There is no evidence of cortical necrosis, either laminar or focal. There is white matter swelling with effacement of the IIIrd ventricle but no evidence of shift at the midline. The paraventricular structures including the mammillary bodies show no evidence of necrosis. There is no basal ganglia or diencephalon lesion. On sectioning of the brain stem there is no evidence of brain stem haemorrhage to suggest Leigh's disease. The cerebellum is unremarkable.

HISTOLOGY

Multiple sections from frontal, parietal, temporal cortex, deep white matter, routine sections from basal ganglia, periventricular grey matter, hypothalamus, mammillary bodies, brain stem and cerebellum have been examined.

Cortex and White Matter The sections show that there is focal meningeal thickening and a cellular reaction in the meninges and perivascular space and the underlying cortex. ~~is present in places~~. There is no cortical necrosis but in the deep white matter focal collections of neurones are present arranged in a rather haphazard manner.

Basal Ganglia The sections show no pigmentation or calcification and there is generally good neuronal preservation.

Periventricular Grey Matter, Hypothalamus and Mammillary bodies There are focal collections of neuroblasts in the subependymal zone suggestive of a migration problem. There is generally good neuronal preservation and no vascular proliferation is present in the periventricular grey matter and mammillary bodies. However small foci of necrosis are present in the periventricular grey matter which are probably a consequence of cerebral oedema.

Hippocampi The sections show no displaced neurones or Ammon's horn sclerosis. There is some rarefaction and occasional ischaemic neurones are present in the pyramidal cell layer. No tumour has been identified.

NPPM 114/96

Cerebellum The sections show no significant cell loss in Purkinje cell or granule cell layer. There is no cerebellar cortical dysplasia and the dentate nuclei are preserved.

Brain stem The sections show focal haemorrhages.
There is no myelinolysis.

COMMENT:

In summary, the features here are those of cerebral oedema with neuronal migrational defect and a low grade subacute meningoencephalitis. No other discrete lesion has been identified to explain epileptic seizures. The reaction in the meninges and cortex is suggestive of a viral aetiology, though some viral studies were negative during life and on post mortem CSF. With the clinical history of diarrhoea and vomiting, this is a possibility though a metabolic cause cannot be entirely excluded. As this was a brain only autopsy, it is not possible to comment on other systemic pathology in the general organs. No other structural lesion in the brain like corpus callosal or other malformations were identified.

11/2/97

NPPM 114/96

Dr. Hermon

Brain Only

Brain Blocker X10 ✓

H+E

Date In

Date

23/11/96

23rd

Further blocks Dr. Mirk. 31.1.97

1 mamillary bodies

HE

4 Brain

"

urgent for NSU

EBs out to Dr. Mirk

6:2

Cord x 2

1/5/97

23/5

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ANATOMICAL SUMMARY

CODES

History of recent diarrhoea and vomiting, cerebral oedema (brain weight 1606 g), brain stem necrosis. Subacute inflammation meninges on perivascular space.

History of epileptic seizures since 10 months of age, neuronal migration disorder.

CLINICAL SUMMARY

T-A0100 M-01000 D4-00000
M-40000 D4-41720

She was well until 72 hours before admission. She had visited her cousin who had vomiting and diarrhoea. She had similar symptoms and 24 hours prior to admission started to vomit. Her speech became slurred and she became increasingly drowsy. She was felt to have subclinical seizures. She was treated with rectal Diazepam, intravenous Phenytoin and intravenous Valproate. She also had Acyclovir and Cefotaxime. Her serum sodium dropped to 121 and there was a query of inappropriate ADH secretion. Her fluids were restricted but she had respiratory arrest at 3 am on 23/10/96. She was intubated and transferred to intensive care where a CT scan showed cerebral oedema. Brain stem criteria was fulfilled at 6 am.

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NPPM 114/96

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Brain Stem The sections show focal haemorrhagic necrosis. There is no myelinolysis.

COMMENT:

In summary, the features here are those of cerebral oedema with neuronal migrational defect and a low grade subacute meningoencephalitis. No other discrete lesion has been identified to explain epileptic seizures. The reaction in the meninges and cortex is suggestive of a viral aetiology, though some viral studies were negative during life and on post mortem CSF. With the clinical history of diarrhoea and vomiting, this is a possibility though a metabolic cause cannot be entirely excluded. As this was a brain only autopsy, it is not possible to comment on other systemic pathology in the general organs. No other structural lesion in the brain like corpus callosal or other malformations were identified.

25/10/96

11/2/97

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Autopsy No.: NPPM 114/96

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Age :	9 1/2	Hospital :	R.B.H.S.C.
Sex :	F	Ward :	I.C.U.
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ANATOMICAL SUMMARY

CODES

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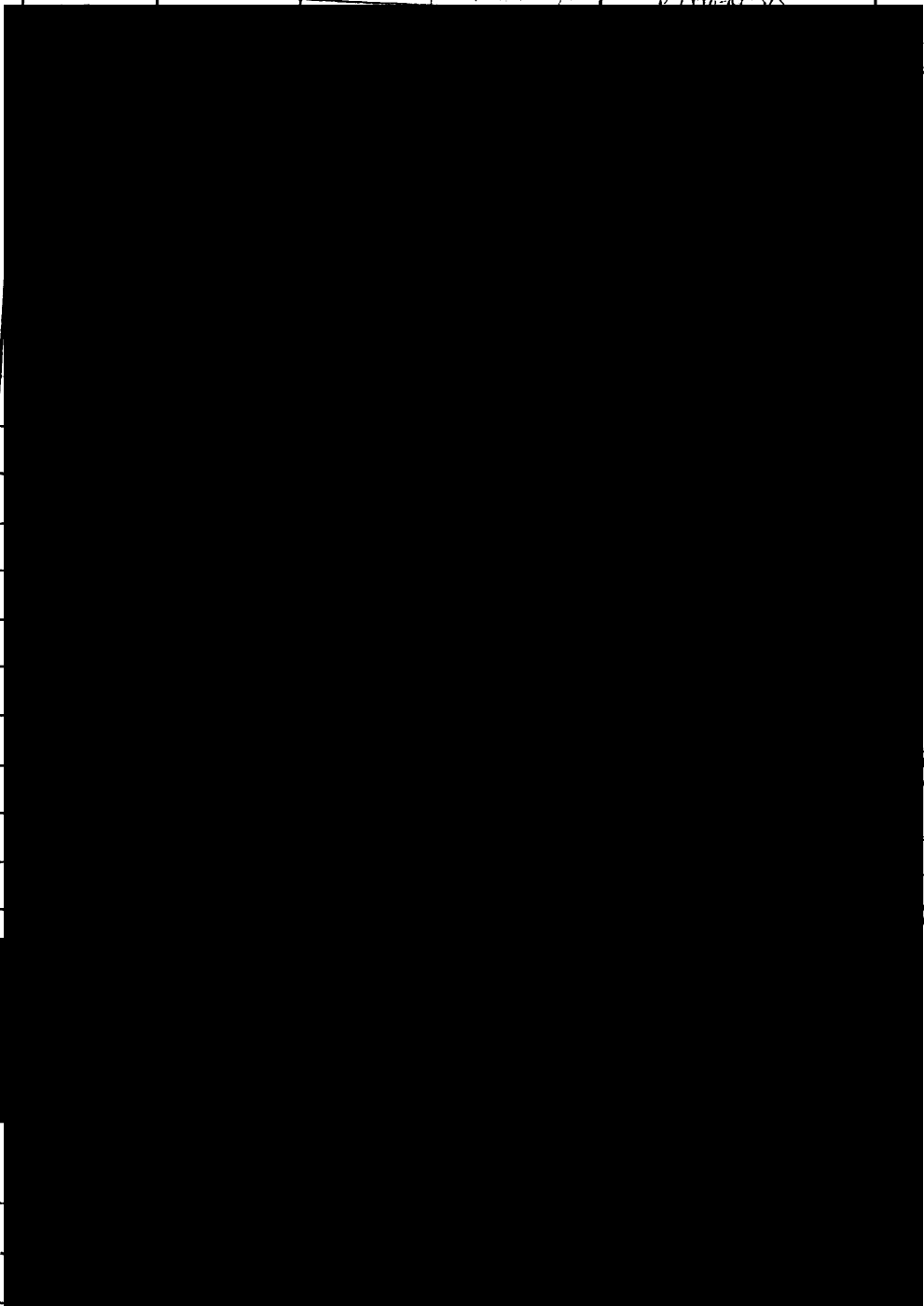
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11/2/97

RACK No.	IN CASE	TYPE		SPECIMEN	DIAGNOSIS
	No.	FROZEN	SPECIMEN		



NPPM 114/96	SNAP	BRAIN	

Checked JM 6/3/07

NPPM 114/96

Dr. Heron

Brain Only

Brain Blocks X10 ✓

H+E

Date In

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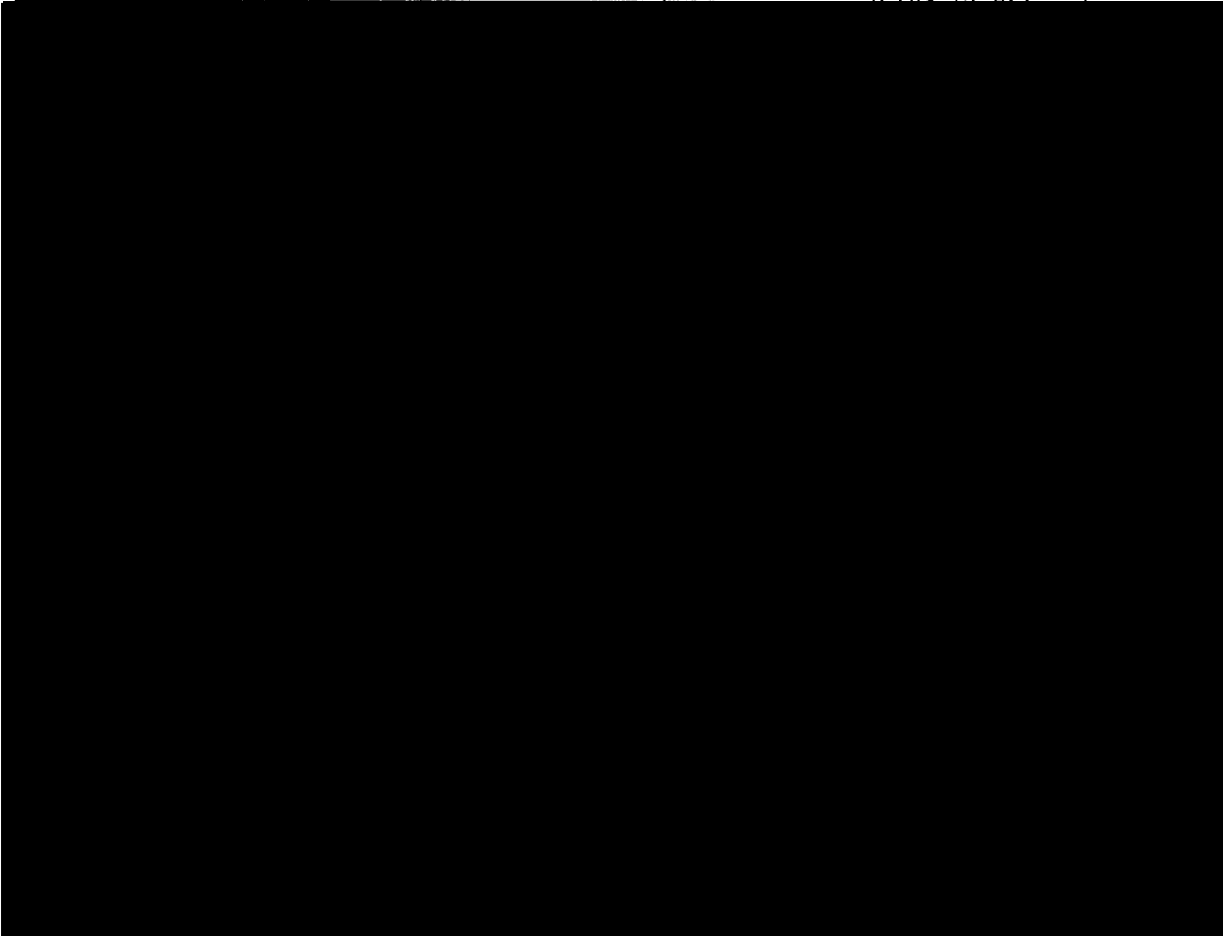
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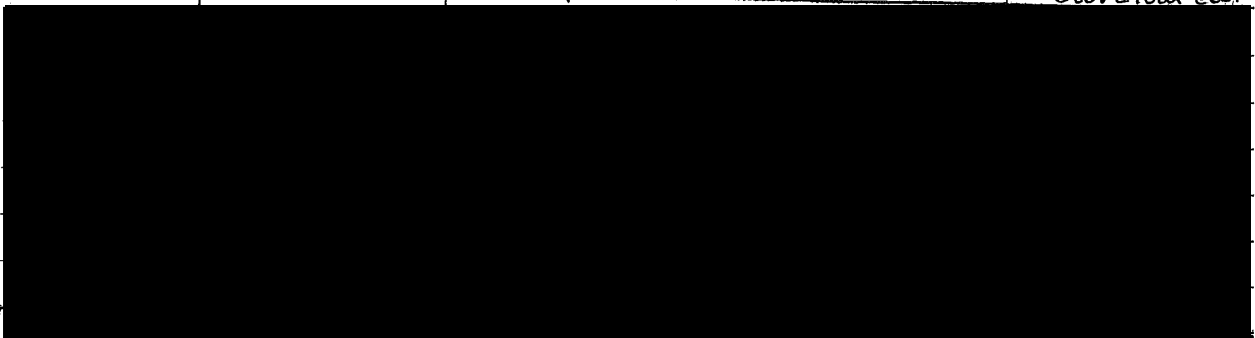
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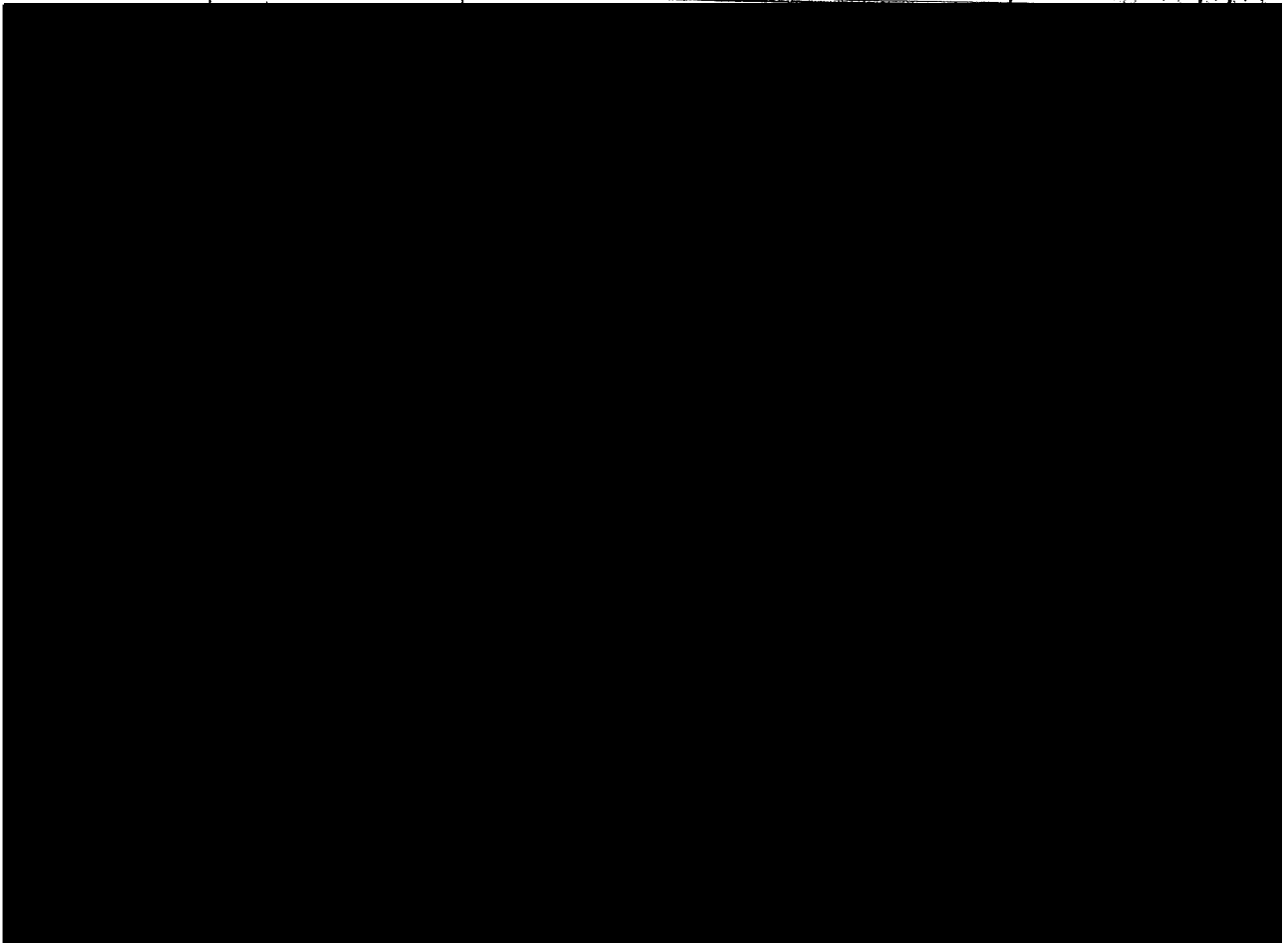
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1/5/97

23/5/

PPM N°	PATHOLOGIST	Decased	Ward / Hospital N°	Specimen Received	Date TM
					
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			Out 24/4/97



DEPARTMENT OF NEUROPATHOLOGY
AUTOPSY REPORT

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Cortex and White Matter The sections show that there is focal meningeal thickening and a cellular reaction in the meninges and perivascular space in the underlying cortex. There is no cortical necrosis but in the deep white matter focal collections of neurones are present arranged in a rather haphazard manner.

Basal Ganglia The sections show no pigmentation or calcification and there is generally good neuronal preservation.

Periventricular Grey Matter, Hypothalamus and Mammillary bodies There are focal collections of neuroblasts in the subependymal zone suggestive of a migration problem. There is generally good neuronal preservation and no vascular proliferation is present in the periventricular grey matter and mammillary bodies. However small foci of necrosis are present in the periventricular grey matter which are probably a consequence of cerebral oedema.

Hippocampi The sections show no displaced neurones or Ammon's horn sclerosis. There is some rarefaction and occasional ischaemic neurones are present in the pyramidal cell layer. No tumour has been identified.

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Cerebellum The sections show no significant cell loss in Purkinje cell or granule cell layer. There is no cerebellar cortical dysplasia and the dentate nuclei are preserved.

Brain Stem The sections show focal haemorrhagic necrosis. There is no myelinolysis.

COMMENT:

In summary, the features here are those of cerebral oedema with neuronal migrational defect and a low grade subacute meningoencephalitis. No other discrete lesion has been identified to explain epileptic seizures. The reaction in the meninges and cortex is suggestive of a viral aetiology, though some viral studies were negative during life and on post mortem CSF. With the clinical history of diarrhoea and vomiting, this is a possibility though a metabolic cause cannot be entirely excluded. As this was a brain only autopsy, it is not possible to comment on other systemic pathology in the general organs. No other structural lesion in the brain like corpus callosal or other malformations were identified.

25/10/96

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