A RARE PRESENTATION OF AN EPIDERMOID CYST: CASE REPORT AND LITERATURE REVIEW

MNM. Tarmizi†, Khairuzi S‡, M. Yusoff †, J. Abdullah†, AR. Ariff#*, O. Norhayati##.

Neurosurgical Unit, Department of Surgery†, Department of Orthopaedic‡, Department of Radiology#, Department of Pathology##, School of Medical Sciences, Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia.

Introduction: Haemorraghe from a benign intracranial epidermoid cyst is a rare occurrence. This is the 4th case report in the English literature (A current Index Medicus 2000).

Objectives: To report a rare case presenting as a recurrent fossa posterior bleed in a young patient initially thought to be an arteriovenous malformation.

Methodology: The patient presented with acute symptoms of raised intracranial pressure and mild cerebellar signs. An MRI scan of the brain and angiogram revealed no vascular abnormality.

Results: A suboccipital approach to the lesion was done which revealed a gross appearance of an epidermoid cyst. Postoperative the patient developed a transient 6th nerve paresis which recovered spontaneously after 3 months.

Conclusions: Histopathology revealed an epidermoid cyst with areas of haemorrhage. This is uncommon as epidermoid cysts are not known to bleed. This patient did well despite a long rehabilitation period.

Reference:
MANAGEMENT OF A COMPLEX TRAUMATIC DISLOCATION OF C1 IN A CHILD: A CASE REPORT AND REVIEW OF INNOVATIVE TREATMENT.

M. Yusoff I, Khairuzi S, J. Abdullah, Devnani A.S, G. Ghazaime
Department of Orthopaedic, Unit Neurosurgery, Department of Surgery, Department of Anaesthesiology, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia.

Introduction: A complicated neglected congenital C1/C2 abnormality usually cause mortality and morbidity. This patients may present do part of a congenital complex disease, degenerative process or trauma.
Objectives: To report and review the innovative management done for a rare case of C1/C2 dislocation from a trivial trauma.
Methodology: A 14 year old Malay male was admitted to the Intensive Care Unit of the Hospital USM after developing severe paraparesis due to a C1/C2 dislocation. Cervical spine x-ray as well as Magnetic Resonance Imaging of the cervical spine revealed a medullopathy secondary to compression. The atlas was seen to compress the spinal cord at the level of the foramen magnum.
Results: After nearly a month of conservative therapy due to parental refused a posterior approach was done to fused occiput to C3. Intraoperatively the T-Frame system was used with soft wires (Johnson&Johnson) assisted with allograft and a Halo Frame. Postoperatively the patient took 3 months to recover from his paraparesis and ventilatory support.
Conclusions: Neglected atlantoaxial dislocation with paraparesis is rarely seen and its management is complicated. This case despite being neglected had a favorable outcome.
A RARE CASE OF HEMANGIOPERICYTOMA OF THE THORACIC SPINE.

MNM Tarmizi, Yusoff I, Khairuzi S, J. Abdullah, S. Mutum, BM. Biswal, AR. Ariff

Department of Orthopaedic, Unit Neurosurgery, Department of Surgery, Department of Pathology, Department of Radiotherapy, Department of Radiology, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia.

Introduction: Intradural and extramedullary hemangiopericytoma are rare. The Index Medicus cites only 2 case reports on this tumour located in the thoracic spine.

Objectives: To report a rare case of an intradural extramedullary hemangiopericytoma and its management.

Methodology: A 36 years old Malay lady was referred to the neurosurgical unit with history of progressive paraparesis. An urgent Magnetic Resonance Imaging of the spine revealed an intradural extramedullary tumour with invasion of the intervertebral foramen of thoracic twelve and lumbar one.

Results: An emergency laminectomy of lumbar 1 and 2 was done with removal of this tumour which grossly resembled a neurofibroma. The histopathology results revealed a hemangiopericytoma.

Conclusions: The patient’s paraplegia improved to grade 3/5 with aggressive physiotherapy. The patients is currently receiving radiotherapy.

Reference.
Introduction: Spinal cord evoked and brain stem potential monitoring is now a golden standard in monitoring the physiological changes during neuroorthopaedic operations. We described the cases monitored since the concept of intraoperative monitoring was establishment in June 1999.

Methodology: The first 10 cases were retrospectively analysed and their pathology determined by both neuroradiological imaging and neurophysiological charting. There were 9 cases of cervical cord /brain stem pathology and one case of thoracic spine tumour. All patients had evidence of clinical neurological deficit ie paraparesis, monoplegia, tetraplegia or cranial nerve deficit.

Results: All 10 patients were monitored intraoperatively and changes during high speed drilling, instrumentations were recorded. Any abnormal were form was informed and method of operation was changed. There were no permanent waveform changes intraop or postoperatively. All patients did not do worse than their preoperative neurological deficit. All cases had improvement in motor function after 6 months of aggressive rehabilitation.

Conclusion: Neurophysiological monitoring of spinal cord function is important and should be the gold standard for all neuroorthopaedic intervention.
NEUROPHYSIOLOGY (EEG, SSEP AND TRANSCRANIAL DOPPLER) MONITORING AS PROGNOSIS DETERMINANTS. COMPARING NEUROPHYSIOLOGY VERSUS CLINICAL FINDINGS IN THE AGGRESSIVE NEUROSURGICAL INTERVENTION OF ACUTE SUBDURAL HEMATOMA IN SEVERE HEAD INJURY PATIENTS.

MDM. Ashraf†, J. Abdullah†, G. Ghazaime$x, A. Ashok#, A. Rosdi#, M.A. Fadziil#, WIW Zarinah#, PS Shareen#, N. Noza#, D. Fatimah#, I. Marshamsina#, M. Norzihan#, M. Yaacob#, AR Dass#.

Neurosurgery Unit, Department of Surgery†, Department of Anaesthesiology$x, Respiratory and Haemodynamic Unit #, Hospital Universiti Sains Malaysia. 16150 Kubang Kerian, Kelantan, Malaysia.

Introduction: Severe head injuries are defined as those between Glasgow Coma Scale 3-8. Acute subdural hematoma when untreated are mostly fatal. Most severe head injury patients subdural hematoma are not operated on due to their high mortality ie cerebral death due to malignant oedema and coning. Decisions are made on subjective feeling and experience rather on clinical objective and neurophysiological reasoning.

Methodology: 10 patient with acute traumatic subdural hematomas and poor Glasgow Coma Scale were analysed via neurophysiological parameters (EEG,SSEP and transcranial doppler) before decision for aggressive surgical intervention were taken. A standard ICU management were done for all this cases.

Results: All patients with reactive pupils (n=8) with reactive EEG,SSEP and transcranial doppler survived despite having a high morbidity (infection, long hospital stay etc). Patients with unreactive pupils (n=2) with preoperative reactive EEG, SSEP and transcranial doppler did not survive despite aggressive postcraniotomy and neurointensive care. Post operative monitoring revealed slowing of EEG waveform. Prolonged SSEP and decrease cerebral flow compared to the other 8 patients.

Conclusion: A longterm prospective followup is necessary to determind the value of neurophysiological monitoring of head injury patients in the pre, intra and post operative period. Pupillary dilatation may be more sensitive than any neurophysiological value. This needs to be tested in a long term followup.

Reference:

TRANSCRANIAL DOPPLER MONITORING OF SUBARACHNOID HAEMORRAGHE: A STUDY OF RESPONSE TO AGGRESSIVE ICU THERAPY

MDM. Ashraf+, J. Abdullah+, G. Ghazaimex, A. Ashok#, A. Rosdi#, MA. Fadzil#, WIW. Zarinah#, PS Shareen#, N. Noza#, D. Fatimah#, I. Marshamsina#, M. Norzihan#, M. Yaacob#, AR Dass#.

Unit Neurosurgery, Department of Surgery+, Department of Anaesthesiologyx, Respiratory and Haemodynamic Unit #, Hospital Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan.

Introduction: Aggressive treatment is necessary in the management of subarachnoid haemorrhage (SAH) secondary to primary intracerebral haemorrhage due to hypertension or vascular abnormalities. Delay recognition may cause irreversible secondary damaged causing life long morbidity

Objective: To look into the ICU outcome of transcranial doppler monitoring of vasospasm in SAH.

Methodology: 18 aneurysm cases were analysed prospectively and retrospectively in their relationship to vasospasm associated with subarachnoid haemorrhage (SAH). Transcranial doppler monitoring were done on admission (preoperatively), and postoperatively in the aneurysm SAH operative group and those from day 1 till day 3 of the hypertensive SAH group. All patients received nimodipine as a standard treatment regime.

Results: No vasospasm defined as velocity above 100 cm/s were noted in the nimotop group. One patient had a severe contralateral. A vasospasm causing stroke. Hypoperfusion due to hypotension in the nimodpine group caused reduced doppler flows in both hypertensive non aneurysm and hypertensive aneurysm group. Inotropic support had to be started to unincreased cerebral blood flow to acceptable values determind by transcranial doppler. Two patients needed hypertensive, hyperdynamic, hemodilution technique to augment the severe vasospasm noted with improvement.

Conclusion: Transcranial doppler measurement of the middle cerebral artery flow is a sensitive method of measuring both regional and global cerebral perfusion. Drop in cerebral blood flow is noted immediately even if the patient is normotensive and can lead to proper aggressive neurosurgical intervention.

Reference:
JUGULAR OXIMETER IN THE MANAGEMENT OF SEVERE HEAD INJURY: IS IT SENSITIVE ENOUGH?

MNM. Tarmizi†, J. Abdullah†, G. Ghazaimex, A. Ashok#, A. Rosdi#. MA. Fadzil#, WIW. Zarinah#, PS Shareen#, N. Noza#, D. Fatimah#, I. Marshamsina#, M. Norzihan#, M. Yaacob#, AR Dass#.

Neurosurgery Unit, Department of Surgery†, Department of Anaesthesiologyx, Respiratory and Haemodynamic Unit #, Hospital Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan.

Introduction: Jugular oximeter has been used in the Intensive Care Unit of Hospital USM since 1998; cerebral oximetry and of intracranial pressure monitoring has not been able to reduced the mortality rates in severe head injuries. The introduction of other monitoring parameters have been recommended by the society of neuroanaesthesia and critical care.

Methodology: We purpose a protocol to manage severe head injury patients according to the European Brain Injury Consortium and American Association of Neurosurgical Society. This protocol made after a study on the different types of management of severe head injuries in Malaysia is presented. There is currently no national protocol for severe head injury patients in Malaysian tertiary centers.
PROTOCOL FOR ICU MANAGEMENT OF SEVERE HEAD INJURY

DEFINITION:
TRAUMATIC CNS INSULT RESULTING IN GLASGOW COMA SCORE OF LESS THAN 8

GCS ≤ 8

AIRWAY:
• INTUBATE
• ? CERVICAL SPINE #

ICP MONITORING

• SpO₂ ≥ 95%
• PaO₂ ≥ 90 mmHg
• PaCO₂ = 30-35 mmHg

EVIDENCE OF CONING, INFORM MD STAT.
• HYPERTENSION
• BRADYCARDIA
• DILATING PUPIL/S
MANNITOL 0.5-1.0 MG BOLUS
↓ PaCO₂ TO ≈ 30 mmHg.
DRAIN CSF

ICP < 20
Young adult 18 Paed. < 15

ICP > 20
• KIV REPEAT CT SCAN
• ↑ CPP > 70 mmHg
• ↓ PaCO₂ = 35 mmHg ONLY
WITH SjVO₂ > 55% OR LICOX > 15 mmHg

ICP STILL > 20
• BARBITURATE COMA
• EEG – BASELINE - INFUSION

EUVOLAEMIA
1. CVP
2. +/- PCWP

• MAP > 90 mmHg
HIGHER IN HYPERTENSIVES
+/- INOTROPE

Conclusion: This protocol will improve the management of severe head injury in Malaysia. The combination of cerebral oximetry, intracranial pressure monitoring transcranial doppler and cerebral blood flow study is vital to the better outcome of severe head injury patients.
THE NEUROGRAF 5TH VENTRICULAR SET: A PROTOTYPE DESIGN

J. Abdullah
Neurosurgical Unit, Department of Surgery, Hospital Universiti Sains Malaysia. Kubang Kerian, Kelantan, Malaysia.

Introduction: A 5th ventricular catchment system for the collection of cerebrospinal fluid designed by Dr. Jafri Malin Abdullah is described and shown. This set consists of a ventricular catheter made of silicon, a recipient cylinder a bag collector with markings.

Results: This set is currently being prepared for “international market”.
(The author has no financial rewards what so ever present and future in the invention and sale of this 5th ventricular set system).
CERVICAL SPINE COMPRESSION DUE TO LOCAL EXTENSION OF A THYROID CARCINOMA.

MNM. Tarmizi†, J. Abdullah,‡ Hamid MS§, AR. Ariff¶, Biswal BM#, A.R. Sulaiman,⁰ W. Zulmi¹, Nor Hayati Othman*, K. Gurjeet*.

Neurosurgical Division, Department of Surgery†, Department of Radiology‡, Department of Radiotherapy and Nuclear Medicine§, Department of Orthopaedic⁰, Department of Pathology*, Hospital Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia.

Anterior compression of the cervical cord to local extension from a thyroid carcinoma is rare. We report a patient with this pathology who presented with increasing spastic tetraparesis. She was known to have a thyroid swelling but refused surgical intervention 2 years prior to Neurosurgical intervention. A total thyroidectomy was done followed by anterior cervical excision of metastatic vertebral body of C and C with insertion of an allograft using an anterior cervical plate system (Synthes)R. the patient recovered neurosurgically but unfortunately developed metastasis in her right femoral head as well as her skull bone. Patient was treated with radiotherapy after radioactive iodine and followed up for 4 years. Patient eventually developed intracranial metastasis which was managed additional radiotherapy.
CAVERNOUS SINUS THROMBOSIS : 2 CASE REPORT


Department of Otolaryngology Head and Neck, Neurosurgery Unit, Department of Surgery, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia.

Abstract: We report 2 interesting cases of cavernous sinus thrombosis. The first case is a 7 years old boy, developed cavernous sinus thrombosis following a nasal cutaneous infection. The diagnosis is based on his clinical presentation and also CT scan findings. The second case is 14 year old, unknown case of thalassemia major, presented with proptosis and ophthalmoplegia. Unlike the first case, he was diagnosed clinically since CT scan was normal. The challenging aspect in managing cavernous sinus is ability for early diagnosis and to give appropriate treatment. These report highlight that cavernous sinus is still with us and the importance of a high index of suspicious, since this condition largely diagnosed by physical signs and symptoms. As illustrated in our report, with appropriate and early treatment, the prognosis is good and patients able to achieve complete remission without neurological sequalea.
A RARE CASE OF A FOSSA POSTERIOR ANTERIOVENOUS MALFORMATION.
ASM. Ridzuan¹, A.R. Ariti¹#, J. Abdullah¹.
Neurosurgical Unit, Department of Surgery¹, Department of Radiology¹#, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan.

**Introduction:** Anteriovenous malformation (AVM) can arise throughout the CNS. Ninety percent of intra-cranial AVMs in children occur supra-tentorially. A 8 year old girl presented with loss of consciousness on the day of admission in paediatric ward. She had history of headache on and off for the past one year. The headache was throbbing in nature, increase in severity at both parietal regions. Prior to this admission she complaint of headache, then developed one episode of loss of consciousness. Urgent CT Scans revealed a large left intracerebelar intraparenchymal hematoma with cerebellar oedema and dilatation of both temporal horns and surrounding of third ventricle. She was given intravenous Desamethasone and referred neurosurgical for further treatment.

Magnetic Resonance Imaging was done which revealed bilateral intracerebellar haemorraghe with mass effect to fourth ventricle resulting in obstructive hydrocephalus and no obvious evidence of underlying mass or flow void signal to suggest AVM. The cerebral angiogram showed arteriovenous malformation with a feeder from the left superior cerebellar artery and early venous drainage into the left sigmoid sinus.

**Conclusion:** The patient subsequently refused surgical intervention and opted for noninvasive management in another hospital. Arteriovenous malformation of the posterior fossa are rare and be fatal. The various management of these complex entity is reviewed.
TWO RARE CASES OF GIANT SPINAL NEUROFIBROMAS

AR. Sulaiman, J. Abdullah, Hamid MS, AR. Ariff, S. Mutum, H. Jaafar, Nor Hayati Othman, M. Madhavan
Department of Orthopaedic, Neurosurgical Unit, Department of Surgery, Department of Radiology, Department of Pathology, Hospital Universiti Sains Malaysia, 16150 Kubang Kerian, Kelant, Malaysia.

We report two rare cases of sporadic non NF 1 spinal neurofibromatosis with two different presentation.

Patient one, a 41 years old Malay female, presented with h/o of recurrent fall for 1 week prior to admission. An MRI done then revealed a giant intradural extradural lesion arising from cervical two to cervical 6 measuring 4.3 cm with enlarged lateral foramina at level C4-5 and C5-6 on both sides.

Only when the patient was tetraplegic did patient give consent. A posterior approach compressing of laminectomy of C2 to C6 was done and the tumour was completely excised.

The second patient was born with a soft tissue swelling of her lumbosacral area since birth which progressively grew in size. At the age of 33 two new swellings were noted at the thoracic and lumbosacral level. A magnetic resonance imaging scan of the spine revealed a lesion arising from the foramina level thoracic twelve and lumbar one extended extradurally pushing the muscles of the back posteriorly.

Intraoperatively, a large swelling 10x15cm in the thoracolumbar area as well as a swelling measuring 20x10cm was found in the lumbosacral area and removed. The histopathology of both patients revealed a neurofibromas.

**Discussion:** In both our cases there was no genetic evidence of neurofibromatosis. Solitary neurofibromas do occur and giant spinal neurofibromas are rarely reported in the English Literature. We think that this in the 3rd and 4th cases of giant spinal neurofibroma reported as far of the sporadic type.
ROLE OF SURGERY IN SPONTANEOUS INTRACEREBRAL HEMORRHAGE: A COMPARATIVE STUDY OF SURGICAL AND NONSURGICAL TREATMENT OF INTRACEREBRAL HEMORRHAGE WITH THEIR FUNCTIONAL OUTCOMES IN HOSPITAL UNIVERSITI SAINS MALAYSIA.

MDM. Ashraf\textsuperscript{x}, J. Muiz\textsuperscript{x} MNM. Tarmizi\textsuperscript{x}, J. Abdullah\textsuperscript{x}
Neurosurgical Unit, Department of Surgery\textsuperscript{x}, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia.

Abstract: Spontaneous intracerebral hematoma accounts for about 6.3 to 13.0 percent of all strokes. It is associated with a disproportionately high morbidity and mortality, which approaches 70 percent in certain patient’s subgroups. However, this figure appears to higher in our population (Fauziah J et al). The surgical treatment of spontaneous intracerebral hemorrhage varies throughout the world. The indication for surgery in spontaneous intracerebral hematoma is still controversial.

Methodology: The aim of this study is to compare nonsurgical and surgical outcome in management of spontaneous intracerebral hemorrhage over a 4 years period (1994-1998). We analyzed these risk factors, locations and treatments of ICH, and the final outcomes measured by the Glasgow Outcome Scale in 112 patients.

Result: Hypertension was seen in 60.7% with intracerebral hemorrhage. The selected variables were incorporated into models generated by logistic regression techniques of multivariate analysis to see the significant predictors of outcome. The mortality rate was 25% by 3 months. 58.9% had poor final outcome while 41.1% had good outcome.

Conclusion: Significant predictors of outcome were GCS on admission, duration of surgery and total volume of hematoma. Significant predictors of mortality were high TWDC, low protein, and high lactate dehydrogenase and brain edema. The study suggests that surgical treatment of these categories of patients with ICH does not offer any definite advantage over conservative treatment. We suggest that intracerebral hemorrhage patient’s with operative score more than 22 point is not recommended for surgical treatment.
A NEW SCORE FOR HAEMORRAGHIC STROKE MANAGEMENT: THE KUBANG KERIAN MANAGEMENT STROKE SCORE SYSTEM.

Neurosurgical Division, Department of Surgery, Department of Anaesthesiology, Department of Public and Health, Hospital Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan.

To purpose a new score system for the intention of treating all patients diagnosed with haemorrhagic stroke, presenting to the Neurosurgical Unit, Hospital Universiti Sains Malaysia.

This score was done after a multivariate analysis in certain factors, common and uncommon to patients presenting with this pathology.

**Results:**

Operative Score Systems recommended for adult patients with ICH in Malaysia population. (Proposed HUSM – Kubang Kerian Stroke Management Score)

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<td>&gt;80</td>
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<td>High TWDC</td>
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<tr>
<td>HIGH TWDC=&gt;12,000/mm³</td>
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<tr>
<td>High Lactate Dehydrogenase</td>
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<tr>
<td>HIGH LD=&gt;450 U/MI</td>
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<tr>
<td>Low Protein</td>
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<td>III-IV</td>
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<td>5-10</td>
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<td>&gt;10</td>
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HIGHEST POINT = 25

Conclusion

A prospective study of this score system is now underway to establish its sensitivity and specificity. This score system will assist primary physicians in their decision for combative and aggressive therapy.