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The Spectrum of Paediatric Neurosurgical Trauma at National Trauma Centre in Abuja, Nigeria

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ABSTRACT

Background: Neurosurgical trauma (neurotrauma) is a major cause of death and disability worldwide. The involvement of children makes these injuries a major burden to communities and families, especially in low-resource settings. Knowledge of the aetiology and pattern of paediatric neurotrauma may help drive efforts towards its prevention.

Objective: To review the pattern of paediatric neurotrauma in our hospital's trauma centre.

Methods: A retrospective study of all paediatric neurotrauma managed at the National Trauma Centre of the National Hospital Abuja over three years from September 2014 to August 2017. The trauma register was reviewed, and the data for all patients aged 15 years and below were selected. Details regarding biodata, mechanism of injury, and pattern of neurosurgical injury were retrieved and analysed.

Results: Of the 1,257 patients with neurotrauma that were managed during the study period, 182 (14%) were paediatric. The average age was 6 years (3 months to 15 years) and there were more males (59%) than females. Most (53%) injuries were due to road traffic crashes (RTC), while 32% resulted from falls. Almost all (98%) had head trauma, with 44% of them having traumatic brain injury, half of which were of moderate severity. Other effects of head trauma in the patients included skull fractures, scalp injuries, and seizures. Spinal injury occurred in 2% of the patients, and there was no case of peripheral nerve injury.

Conclusion: Head injury was the most common form of neurotrauma, with RTC being the most common cause of the head injuries, in paediatric patients at our trauma centre.

Keywords:
Pattern, Head injury, Spinal injury, Children

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Archives of Neurosurgery in Africa **Control Study**
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Reliability of Erythrocyte Sedimentation Rate (ESR) and Leucocyte Count as Monitoring Parameters in Tuberculosis of the Spine (Potts Disease): Evidence from a Prospective Study

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ABSTRACT

Background: Diagnosis of tuberculosis of the spine is predominantly clinical in our setting in view of limited availability of advanced diagnostic facilities. This is further supported by nonspecific investigations.

Objectives of the study: This study was designed to compare the Erythrocyte Sedimentation Rate (ESR) and differential leucocyte count parameters between patients with clinical diagnosis of spinal tuberculosis and normal healthy volunteers; and whether such parameters justify routine antituberculosis therapy in such patients.

Methods: This prospective study compared the ESR and leucocyte count parameters of 45 patients with clinical diagnosis of spinal tuberculosis (the cases) with that of an equally matched 45 normal subjects (the controls). The cases were subsequently followed up.The ESR and differential leucocyte counts were repeated after a period of 2 months on treatment and the data was subjected to statistical analysis.

Results: The baseline mean ESR of the cases was 52mm/hr; while it was 6mm/hr in the controls. . Statistical analysis revealed a significant difference in the mean ESR of the patients and the normal subjects (p= 0.000). The baseline mean total white blood cell count (WBC) in the cases was 6.3×10^9, lymphocyte count 39.6% and neutrophils 53.7%; in the control group, it was 6.0×10^9, 43.7% and 64.2%. The mean ESR dropped from 52mm/hr to 42mm/hr among the cases after a period of 2 months on the intensive phase of the antitubercular therapy.

Conclusion: Empirical treatment of patients with antitubercular therapy based on high ESR level at presentation can be justified. On the other hand, the changes in the ESR and white blood cell count parameters among the cases after the initial 2 months of intensive antitubercular treatment did not justify antitubercular therapy among such patients.

Key words:
Erythrocyte Sedimentation Rate (ESR), Tuberculosis, Spinal, Leucocyte Count, Cluster analysis, Differential white cell count

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Incidence, Pattern and Distribution of Intracranial Neoplasms in Ibadan

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ABSTRACT

Background: Recent studies have shown a trend of increasing frequency of intracranial neoplasms in Nigeria as opposed to previous notions that these neoplasms were uncommon in this geographical region.

Objective : This study seeks to determine the pattern/ trend of intracranial neoplasms in Ibadan.

Methodology: A retrospective analysis of all intracranial neoplasms documented in the surgical pathology archives and the cancer registry of the University College Hospital, Ibadan between January 2007 and December 2011.

Results: A total of 187 cases were analysed. The male: female ratio was 1:1 while the mean age was 36.2 years. Peak age group incidence exhibited a bimodal pattern with peaks in the first, fourth and fifth decades. Tumours found in adults constituted 78.6% of all tumours while the remaining 21.4% occurred in children. Neuroepithelial tumours comprised 89 (47.6%) of the neoplasms, followed by meningeal tumours in 47 (25.1%), sellar region tumours in 24 (12.8%) and secondary neoplasms in 24 (12.8%) individuals. Germ cell tumours and malignant primitive nerve sheath tumours were found in 2 (1.1%) and 1 (0.5%) individuals respectively. Of the 75 cases with specified anatomical location, 24 (32%) were cerebral hemispheric, 24 (32%) were cerebellar, 24 (32%) were sellar, 2 (2.7%) were brainstem, and 1 (1.3%) was fronto-orbital.

Conclusion: Most of the tumours were found in the adult population and these were predominantly neuroepithelial lesions.

Keywords:
Brain Tumours, Cancer Registry, Epidemiology, Ibadan

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Case Reports

Spinal Schwannomatosis Unassociated with Phakomatosis: A Case Report

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ABSTRACT

Schwannomas are slow-growing encapsulated benign tumours of the peripheral nerves. The multiplicity of these tumours have been linked with genetic anomalies associated with neurofibromatosis. Schwannomatosis is a rare autosomal-dominant tumour syndrome characterized by the concurrence of multiple schwannomas of the peripheral nervous system, with no involvement of the vestibular nerve. This contrasts with neurofibromatosis 2 in which the existence of bilateral vestibular schwannomas is pathognomonic. Spinal schwannomatosis without features of neurofibromatosis is a very rare occurrence, previously unreported in Nigerian neurosurgical literature. We present a Nigerian patient with cervical intradural-extramedullary and thoracic intramedullary spinal schwannomas. His treatment outcome and a brief literature review were also discussed.

Keywords:

Schwannomas, C1ongenital neurilemmomatosis, Intradural tumours, Neurofibromatosis type 3

Introduction

Schwannomas are well-encapsulated benign nerve sheath tumours of Schwann cell origin which constitute approximately 33% of all benign primary spinal tumours.[1,2] About 90% of these tumours are solitary and sporadic.[2,3] However, the synchronicity of multiple schwannomas in the same individual is usually associated with an underlying genetic predisposition to tumourigenesis as seen in phakomatoses such as neurofibromatosis and schwannomatosis.[1,2,4] Schwannomatosis is a remarkably rare disease entity characterised by multiple extracranial schwannomas occurring in the absence of the genetic mutations of neurofibromatosis.[1,2,4] In this paper, we present a case of spinal schwannomatosis in a middle-aged Nigerian patient.

Case Report

A 43-year-old man who presented to our surgical out-patient clinic with a 2-year history of low back pain and progressive paraparesis which culminated in paraplegia about 7 months from the onset of symptoms. He had an associated history of paraesthesia/numbness of the lower extremities.

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Septum Pellucidum Arachnoid Cyst Presenting with Quadriparesis: A Case Report

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ABSTRACT

Introduction: Cysts of the septum pellucidum are quite rare in the literature. The few documented show symptoms such as headaches, memory deficits and personality changes.

Objectives: To present a case report highlighting the rare aetiology of quadriparesis from a cranial pathology and secondary to septum pellucidum arachnoid cyst.

Methods: We present a 65-year old woman with septum pellucidum arachnoid cyst, who presented with quadriparesis, headaches and personality changes.

Results: Neuroradiological Computed tomography (CT) scan of the brain, showed a large hypodense lesion in the midline between the two lateral ventricles measuring about 6cm in the transverse plane, compressing the foramen of Monro bilaterally and causing obstructive hydrocephalus with transependymal seepage of cerebrospinal fluid noted from both lateral ventricles. She had a cysto-peritoneal shunt performed with resolution of all symptoms.

Conclusion: This case report highlights a rare presentation of a relatively common lesion in a rare location intracranially.

Keywords:
Septum pellucidum, Arachnoid cyst, Quadriparesis, Cysto-peritoneal shunt, Lima

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A Case Report of Giant Occipital Encephalocele with Microcephaly and Challenges in Management

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ABSTRACT
Encephalocele is a congenital anomaly characterized by herniation of the brain and its surrounding meninges containing cerebrospinal fluid through a cranial defect because of mesenchymal developmental anomaly. Giant encephaloceles are described when the size of the encephalocele is larger than the baby's head size.

There may be coexisting congenital abnormalities which will impact the management of these patients, as well as affect the prognosis.

Management of these patients can pose a huge challenge to the nursing staff, anaesthetists and the surgical team which to a large extent can impact the outcome.

We present a neonate with a giant occipital encephalocele associated with microcephaly and low birth weight, who underwent excision and repair of the encephalocele. The challenges of nursing care, intubation, intraoperative and postoperative care of the patient is discussed, and the outcome highlighted.

Keywords:
Giant occipital encephalocele, Microcephaly, Neural tube defect, Low birth weight.

Introduction

Encephalocele is a relatively uncommon neural tube defect that affects the newborn, characterized by herniation of the brain tissue and meninges through a cranial defect, usually into a cerebrospinal fluid containing sac. Giant encephalocele, described when the size of the encephalocele is larger than the baby's head size,[1] is even more uncommon. The occipital region is the commonest location for giant encephaloceles.[2] Several case reports and few case series of giant occipital encephaloceles have been published in the English literature.[2,3,4,5,6,7,8,9,10] It may be associated with some congenital brain anomaly like, hydrocephalus, syringomyelia, low lying transverse sinus, medullary kinking, tectal

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