

Changing trends in chronic subdural haematoma in Nigeria

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Abstract

Objective: Chronic subdural haematoma (CSDH) is common in the elderly and is often associated with serious morbidity and mortality. Previous reports from Africa indicate earlier age of onset and a generally better tolerated condition compared with more developed countries. As the average age of the Nigerian population increases with associated medical problems, the pattern of the disease is expected to change towards that seen in more developed countries. **Methods:** The study is a retrospective review of 130 patients presenting to the Memfys hospital for Neurosurgery Enugu. The demographic, causal and clinical patterns were analysed. These were compared with previous studies from Africa. 116 patients who had surgical intervention were further analysed for management and outcome.

Results: The male female ratio was 3:1 and the peak age incidence was in the 6th decade. 50.8% of cases resulted from road traffic accidents (RTA) and 21.5% from falls. Other causes included Neurosurgical procedure in 2.3%. The commonest presentations were headaches and altered consciousness. Nineteen patients were on antiplatelet drugs. Surgical treatment was with burr hole craniostomy and drainage in all cases with a perioperative mortality of 0.8%. Re-operation rate was 7.8% in all cases but 36% in patients on antiplatelet/anticoagulants. The outcome at six weeks using the Glasgow Outcome Scale (GOS) was good in 87%.

Conclusion: The pattern of CSDH in Nigeria has changed towards that seen in developed countries. There is also a general increase in frequency of the condition, and health care systems must be planned to meet this change.

Keywords: *Chronic subdural haematoma, trends, change.*

Résumé

L'hématome chronique subdurale (CSDH) est commun chez les vieillards et est souvent associé avec

à de souffrance et la mortalité. D'autres rapports indiquent aux jeunes âges et une meilleure tolérance compare aux pays développés. Avec l'augmentation de la durée moyenne de vie de la population Nigériane avec les problèmes associés, la fréquence de la maladie est estimée à changer vers ce qui est observé dans les pays développés. Cette étude est une revue rétrospective de 130 patients se présentant à l'hôpital de Memfys, Enugu pour la neurochirurgie. La démographie, les fréquences des causes et symptômes étaient évalués et comparés à d'autres valeurs obtenues dans d'autres études en Afrique. 116 patients qui avaient eu une intervention chirurgicale étaient analysés pour nécessité des soins. La proportion male femelle était de 3:1 et l'incidence du peak d'âge était de soixante ans. 50.8% des cas résultaient des accidents de trafic routiers (ATR) et 21.5% des chutes. Autres causes inclus la procédure neurochirurgicale chez 2.3%. Les symptômes les plus communs étaient les maux de tête et les altérations de conscience Dix neuf patients étaient sous médication des antithrombocytes. Le traitement chirurgical était avec une craniotomie de trou de Burr et évacuation chez tous les cas avec une mortalité perioperative de 0.8%. Le taux de ré-opération était de 7.8% chez tous les cas mais 36% des patients sous antiplatelet/anticoagulants. Les résultats à six semaines utilisant l'échelle de Glasgow (GOS) était bonne chez 87%. La fréquence de la CSDH au Nigeria a changé vers ce qui observe dans les pays développés. Il y a une augmentation de cette condition et les systèmes de soins de sante doivent être planifiés pour vaincre cette condition.

Introduction

The adequate treatment of chronic subdural haematomas is generally accepted to be by surgical evacuation. Nevertheless, differences exist in the details of the surgical conduct in various centres. Most surgeons agree that one or two burr hole craniostomy with or without drainage is the treatment of choice especially in elderly patients with other comorbidity[1-3]. In a recent article, Santarius *et al* looked at the question of the use of drains following

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evacuation and concluded that drainage significantly improves outcome [4].

Neurosurgery practice has advanced considerably in Nigeria in the last two decades with more available neuroimaging facilities. Previous reports on CSDH from Africa indicated some geographical peculiarities [5-8] but these studies were pre-computerised tomography (CT). There has been an increase in life expectancy in our population since the 70s and increasingly most African countries are faced with the morbidity associated with an ageing population. Since CSDH commonly affects the elderly [9], the condition presents a good opportunity to explore how ageing in the population affect disease patterns.

This paper reports a consecutive series of 130 patients presenting to a Private Hospital for Neurosurgery in the South East of Nigeria. It explores the demographic, causal and clinical characteristics related to the development of CSDH and compares the findings with the patterns earlier described in this environment. The surgical complications and outcome and how these are influenced by the increasing use of anticoagulants are also described.

Method

The study retrospectively analysed the case records of all patients seen at the Memfys Hospital for Neurosurgery (MHN) Enugu, Nigeria over a five year period, between February 2005 and April 2010. The hospital is a large referral centre for neuroimaging and 130 patients were identified with CSDH on scanning over the period under review. The records of all 130 patients were analysed for demographic and causal patterns, however further analyses for management and outcome was only possible in 116 admitted patients. Outcome was measured using the Glasgow Outcome Scale (GOS). The data from the present study was compared with previous studies from East and West Africa.

About 40% of patients returned for follow-up. Postoperative scans were obtained at follow-up in 10% of the patients who remained symptomatic. Approval was obtained for the study from the hospital's ethical committee.

Results

Of the 130 patients, 98 (75.4%) were males and 32 (24.6%) were females. The peak age of presentation was in the 6th and 7th decades (Table 1). The commonest cause was road traffic accidents (Table 2). Falls accounted for 21.5% of the cases and history was uncertain in 19.2%. About 67% of patients

presented within six weeks of injury. The commonest symptoms were headache (80%) and/or disturbance of consciousness (74.6%) (Table 3). Nineteen patients.

Table 1: Age distribution of patients presenting with CSDH in two comparative series

Age	Present Study n (%)	Ohaegbulam 1979 ⁷ n (%)
< 20	9 (6.9)	26 (19.7)
20 – 29	13 (10)	38 (28.8)
30 – 39	15 (11.5)	28 (21.2)
40 – 49	17 (13.1)	10 (7.6)
50 – 59	24 (18.5)	15 (11.3)
60 – 69	29 (22.3)	5 (3.8)
> 70	23 (17.7)	2 (1.5)
Unknown	-	8 (6.1)
Male: Female	3:1	5:1

Table 2: Causes of CSDH in two comparative series

Aetiology	Present Study (%)	Ohaegbulam 1979 (%) ⁷
Fall	(21.5)	10 (7.6)
RTA	(50.8)	102 (77.3)
Assault	(6.2)	20 (15.1)
Post-op	(2.3)	Na
Unknown	(19.2)	Na

Na = Not available

Table 3: Clinical presentation of patients with CSDH in two comparative series

	Present study n(%)	Ohaegbulam 1979 n(%) ⁷
Decreased Consciousness	97 (74.6)	75 (56.3)
Headache	104 (80)	55 (41.7)
Hemiparesis	58 (44.6)	85 (64.3)
Gait disturbance alone	10 (7.7)	Na
Seizure	31 (23.9)	25 (18.9)
Dysphasia	7 (5.4)	Na
Cognitive changes	11 (8.5)	11 (8.3)
Antiplatelets	26 (20)	Na
Anticoagulants/	7 (5.4)	Na

Na = Not available

were on treatment with antiplatelets and seven on anticoagulants. The Glasgow Coma Score (GCS) on presentation was 9-15 in 76.2% (99 of 130 patients) and at discharge this had improved to 94.8% (109 of 115 patients). Operation done was by one (18.1%) or two (31.9%) burr hole craniostomies and all were drained. Nine (7.8%) patients had repeat aspirations.

and there was one perioperative mortality from secondary infection. Only 46 (40%) patients returned for follow-up. The Glasgow Outcome Scale (GOS) in these patients was good in over 80% (n=37).

Discussion

CSDH is to a large extent a condition of the elderly [9]. In a review of the natural history of the condition, Lee [10] concluded that the requisite pre-morbid status is sufficient potential dural space. This is reflected in the number of cases in elderly patients and patients with atrophic brain from various pathologies. In such patients, minor falls may result in CSDH. In the younger patient, CSDH mostly evolve from acute subdural haematomas. In both instances, the natural history of CSDH is determined by the dynamics of absorption-expansion and the maturation of the neomembrane [10].

In developed countries, CSDH is mainly a disease of people over 65 years of age [9]. In Nigeria and most other developing countries, the condition peaks a decade or more earlier [8]. Indeed earlier studies from Nigeria described a peak distribution in the 3rdth and 4th decades of life [8]. In the present study the age pattern, with peak in the 6th and 7th decades, suggests a shift in line with developed countries although still generally presenting earlier. This shift may be related to increased life expectancy but given that RTA was the most common cause of CSDH, the change may also reflect better management of acute head trauma. There was also an increase in the number of cases per year in Nigeria compared to previous data [5,7,8] which again may reflect the general increase in the population of elderly patients.

The commonest cause of CSDH remains RTA, which differs from the situation in developed countries where falls constitute the commonest cause. CSDH is more frequent in males [11] and this is also the finding in this study with a M:F ratio of 3:1. In previous studies from Africa the male dominance was more pronounced being as high as 5:1 [6,8] to 16:1 [12]. The increase in the proportion of female patients in this study represents another shift towards the pattern in developed countries. As pointed out by Santorius *et al* the explanation for this gender differences is not clear [11]. Headaches, altered consciousness and limb weakness are the commonest presenting symptoms. About 23.8% had a history of seizure as part of their presentation. This is much higher than the incidence in the literature of about 5.6% [13]. This may be an indication of the severity of the underlying cause in our cases (RTA vs falls). At MHN therefore prophylactic anti-epileptic drugs

are routinely given preoperatively. There was a much lower incidence of anticoagulant use in our series than in the literature [14] but a relatively high use of antiplatelet drugs in the form of Acetyl salicylic acid and Clopidogrel. Use of anticoagulants was not mentioned in older studies from the region. In 65% of the cases, it was not possible to establish the reason for antiplatelet therapy as the patients were self medicating. This may also indicate an older population on treatment for ischaemic diseases.

Burr hole craniostomy with closed drainage is our preferred management option and the outcome was similar to that in the literature. Apart from the increased use of drainage, surgical management has not changed significantly in the last three decades. The rate of recurrence in this series of 7.8% is also similar to that in the literature which ranged from 5% to 30% [15].

Conclusion

In Nigeria the pattern of presentation of chronic subdural haematomas has changed from that established by Odeku and Idowu in 1967 and Ohaegbulam in 1976. The commonest cause remains road traffic accident, which is different from the situation in developed countries where the commonest cause is falls. However, the age distribution has changed from a peak in the 3rd and 4th decades to later decades. This is probably due to improved life expectancy. There is an expected increase in frequency of CSDH worldwide related to an increase in the population of elderly patients [4]. This is also true for our population and we must recognise and plan our health care priorities accordingly.

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