CLINICO-PATHOLOGIC CHARACTERISTICS AND TREATMENT OUTCOMES IN CHILDREN WITH NEUROBLASTOMA AT THE KENYATTA NATIONAL HOSPITAL, NAIROBI

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ABSTRACT

Objective: To determine clinical-pathologic characteristics, treatment modalities and treatment outcomes of children diagnosed with neuroblastoma.

Design: Cross-sectional descriptive study based on secondary data from patient records.

Setting: Records department of Kenyatta National Hospital (KNH), a tertiary teaching and referral hospital based in Nairobi.

Subjects: Children aged 15 years and below, admitted with the diagnosis of neuroblastoma, between January 1997 and December 2005.

Main outcome measures: Presenting clinical features, diagnostic modalities including laboratory and imaging data, treatment modalities, response to treatment and patient survival.

Results: Twenty six patients were eligible for the study; 13 males and 13 females giving a M: F ratio of 1: 1. The age range was 5 days to 12 years, with a median age of five years. Abdominal swelling (53.8%), inability to walk due to bone pains (50%), and cranial or peri-orbital swelling (38.5%) were the commonest presenting features. Diagnosis of neuroblastoma was based on tissue biopsy in 50% (95% CI 40.6-79.8%) of the patients, and on fine needle aspiration cytology of mass or bone marrow in the rest. Bone marrow involvement was present in 16, (75%). Anaemia, was common with 72.7% patients having a haemoglobin (HB) <8g/dl at presentation. Immunohistochemistry and cytological grading were done in two, (8%), patients. Urinary vanillyl mandelic acid (VMA), screening was positive in 50% (95% CI 29.9%-70.1%). The most frequently involved organs were abdomen (88.9%), and skeleton, (84.6%). Majority of patients, (62.3%), presented with advanced stage IV disease. Three patients died before commencement of treatment. All treated patients (100%), received cytotoxic therapy. Only two patients (8.6%) had surgery as part of treatment while one, (4.3%) was treated with radiotherapy. The initial treatment regimen was similar for all the patients. Although most patients had a complete initial response to treatment, early relapse, treatment failure, death or loss to follow up of patients with progressive disease were common. Overall survival (OS) at one year and two years were 19.2% (95% CI 6.6-39.4%) and 7.7% (95% CI 0.9%-25 1%) respectively. Only one patient was alive, (also free of disease), five years after diagnosis.

Conclusion: Although other clinical-pathologic findings of the patients were similar to those reported elsewhere, virtually all study patients presented with advanced stage IV disease, which would be associated with poor prognosis irrespective of quality of care. Priority must therefore be on ensuring early diagnosis and referral of patients with neuroblastoma before any other interventions can be expected to positively impact on outcome. The limited rule of surgery and radiotherapy observed over the study period may be attributed to late presentation of the patients. Pathologic evaluation of patients was inadequate, to some extent due to unavailability of facilities, but extra...