advantages of the use of ELISA are simplicity of execution, low cost, rapidity and the possibility of testing a large number of samples in each assay.[3] The development of improved immunodiagnostic tools has contributed to our knowledge on the importance of cysticercosis by enabling seroepidemiological surveys and community based studies to be carried out. Immunodiagnostic techniques include detection methods for specific antibodies and for circulating parasite antigen in serum. The application of ELISA for the detection of circulating parasite antigens may present some diagnostic advantages since it demonstrates not only exposure but also active infections. The correlation between a positive serology symptoms and ocular symptoms indicative for orbital cysticercosis and imaging techniques was fair to good in our study. This may be explained by the clinical outcome of the infection and the immunological response of the human host to infection.

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Clinical Profile and Treatment Outcome of Orbital Rhabdomyosarcoma — Experience of An Ocular Oncology Center

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Rhabdomyosarcoma is the most common primary orbital malignant tumor in children. Shields[1] reported 10 cases of orbital rhabdomyosarcoma among 250 consecutive biopsies for orbital space occupying lesions in children. Understanding of the clinical features of this cancer is required for early diagnosis and with the advent of new treatment protocols prognosis and survival has improved.[2] The purpose was to study the clinical features and treatment outcome of Orbital Rhabdomyosarcoma.

Materials and Methods

This was a retrospective interventional case. All with histopathologically confirmed diagnosis of Rhabdomyosarcoma seen in L V Prasad Eye Institute between September 1996 to August 2006. Data was collected from patient records. Clinical photographs and imaging photographs were also reviewed.

Results

Of 254 pediatric orbital tumours, 20 children (7.8%) were diagnosed with orbital rhabdomyosarcoma (mean age 5.8 years, range 9 months -16 years) between September 1996 to August 2006. Commonest presenting symptom was globe protrusion in 12 / 20(60%), mass in 10 / 20 (50%) cases, pain in 4 / 20(25%), ptosis in 3 and diplopia in 1. Commonest presenting sign was proptosis (20 / 20), non-axial in 15 / 20(75%) and axial in 5 / 20 (25) cases, followed by a visible mass (10 / 20). Initial referral diagnosis at presentation was a malignant tumor in 12 cases, benign tumor in 5, orbital cellulitis in 2, and pseudotumor in 1 case. Commonest tumor location was superomedial orbit (8 / 20,40%), followed by intraconal (4 / 20,20%), superior (3 / 10,15%), inferior and inferomedial (2 each, 10%) and superotemporal (1 / 20,5%). Initial management was by incision biopsy in 13 and excision biopsy in 7 children after review of CT scans. Histopathological diagnosis was embryonal rhabdomyosarcoma in 18 cases while 1 case each were of undifferentiated and alveolar rhabdomyosarcoma. Each of children with embryonal rhabdomyosarcoma had areas of pleomorphism and anaplasia. 14 patients received further treatment here after confirmation of diagnosis. Chemotherapy with radiotherapy was administered in 13 and 1 patient received chemotherapy alone. Chemotherapy administered was Vincristine, Doxorubin, Cyclophosphamide and Ifosfamide, Etoposide (VAC+IE) as alternating 3 weekly cycles for 6 cycles in 10 children, Vincristine, Doxorubicin, Cyclophosphamide (VAC) in 3 and Vincristine with Actinomycin D in 1 child. The mean follow up was 26.2 months. Tumour resolved in 13 cases, 1 child with intracranial extension had residual tumor for which salvage chemotherapy was instituted. 2 children had local recurrence, of which 1 died due to chemotherapy related pancytopenia. 11 remained disease free at last follow up (78.5% 95%Cl=52-93).

Discussion

The clinical spectrum of orbital rhabdomyosarcoma in this series is similar to that described by Shields[2] in presenting symptoms and signs and location. Rhabdomyosarcoma can mimic other orbital conditions and in this series 50% had an initial clinical diagnosis of rhabdomyosarcoma. Improved prognosis for rhabdomyosarcoma with combined chemotherapy and radiotherapy is largely due to the trials by the Intergroup Rhabdomyosarcoma Study Group3. 10 year overall survival with combined treatment is 87% (82-92%)[4]. Alternate cycles of VAC + IE at 3 weekly intervals has been shown to be as effective as weekly cycles of VAC which is the standard chemotherapy in the IRS protocols.[5] Initial management requires imaging and biopsy. Good tumour control and improved survival is achieved with combined radiotherapy and chemotherapy.

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