



RESEARCH ARTICLE

A Rare and Unusual Case of Burkitt's Lymphoma Presenting with A Cervical Lymphnode in a 10 Year Old Boy

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Abstract

Burkitt's lymphoma is an aggressive type of non Hodgkin's lymphoma. It is uncommon malignancy accounting for only 0.76% of solid tumors among the Indian Children. We present a case of 10 years old male child with Burkitt's lymphoma presenting with abdominal distension, fever, Pedal edema and cervical lymphadenopathy and diagnosis was made by C.T. Scan of Abdomen and Fine needle aspiration cytology (FNAC).

INTRODUCTION

Lymphoma is a group of malignant tumors involving cells of lymphoreticular or immune system such as B-lymphocytes, T-Lymphocytes and monocytes. Burkitt's lymphoma is a high grade aggressive sub group of non-hodgkin's lymphoma (Biko *et al.*, 2009; Boerma *et al.*, 2004). It is rapidly growing B-cell non Hodgkin lymphoma that often occurs in children and young adult.

Burkitt's lymphoma was first described by Denis Burkitt in 1958 and it is divided into 3 types endemic, sporadic and Immunodeficiency associated (Biko *et al.*, 2009). Endemic Burkitt's lymphoma is associated with Epstein – Barr Virus {EBV} in 95% of cases and is commonly seen in equatorial Africa (Biko *et al.*, 2009). The sporadic type is associated with EBV only in 15% of cases while immunodeficiency associated type is seen in patient with HIV.

We report a case of 10 year old male child who presented with Burkitt's lymphoma at Owaisi Hospital and Research Centre, Deccan College of Medical Sciences, Hyderabad, Telangana State.

Case Report

A 10 years old male child presented with fever, abdominal distension, pallor and swelling of both lower limbs. There was no family history of contact with tuberculosis and no h/o. any illness in the family or any history of major medical or surgical illnesses in the past.

At admission child appeared toxic, febrile, pale, edema of both the lower limbs, abdominal distension with cervical lymphadenopathy.

On examination the child had fever, pallor, abdominal distension ,pedal edema & cervical lymphnodes were enlarged, tender, axillary and inguinal lymphnodes were also enlarged. Child presented was normal prior to admission, since 10 days he had fever for which he was taking treatment. He was investigated including complete blood picture which showed leucocytosis, Hb 7.9gms%. Chest X-Ray showed bilateral pleural effusion {1} Blood culture showed staph aureas, Mantoux, Widal, PS for MP, dotblot for HIV, NS1Ag were negative. Pleural tap done

cytology revealed 97% of lymphocyte and 3% were neutrophils. Biochemical analysis were within the normal limit, C/s was sterile. AFB was negative.

Fine needle aspiration cytology (FNAC) was done from cervical lymphnodes who showed starry sky appearance {Fig1 & 2} and a typical lymphoid cell with large nuclei {Fig 3 & 4} was suggestive of Burkitt's lymphoma. Child was treated with chemotherapeutic agents with positive clinical outcome.

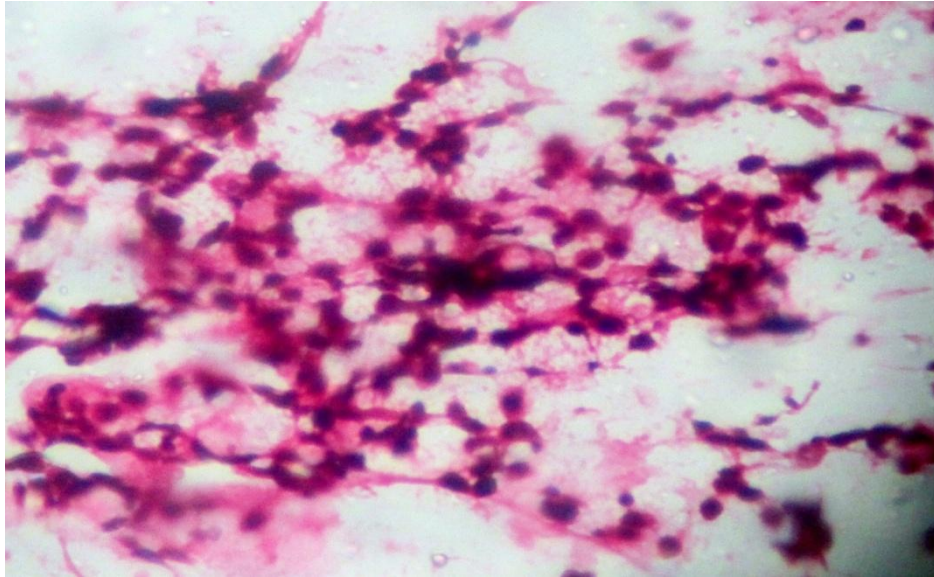


Figure 1: Fine Needle Aspiration Cytology, 10x. Starry sky appearance

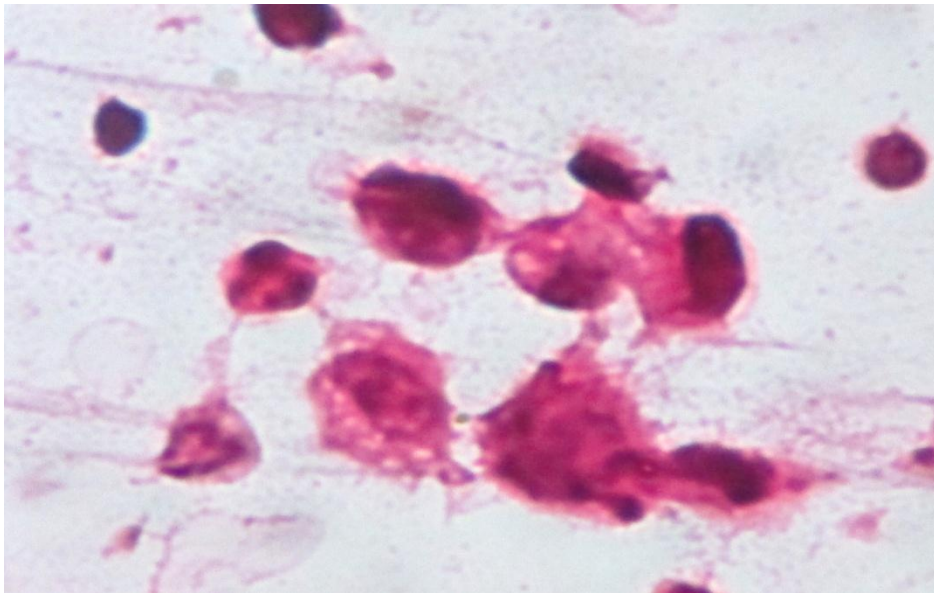


Figure 2: Fine Needle Aspiration Cytology, 40x. Vacuolated macrophages & nucleolated tumor cells.

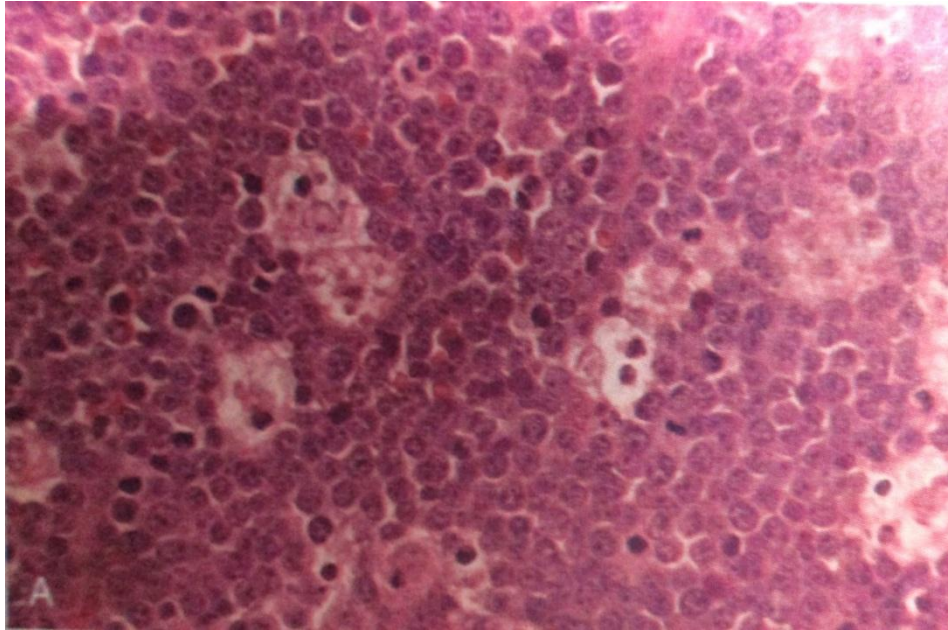


Figure 3: Histopathology, 10x. Pale tingible body macrophages producing starry sky appearance

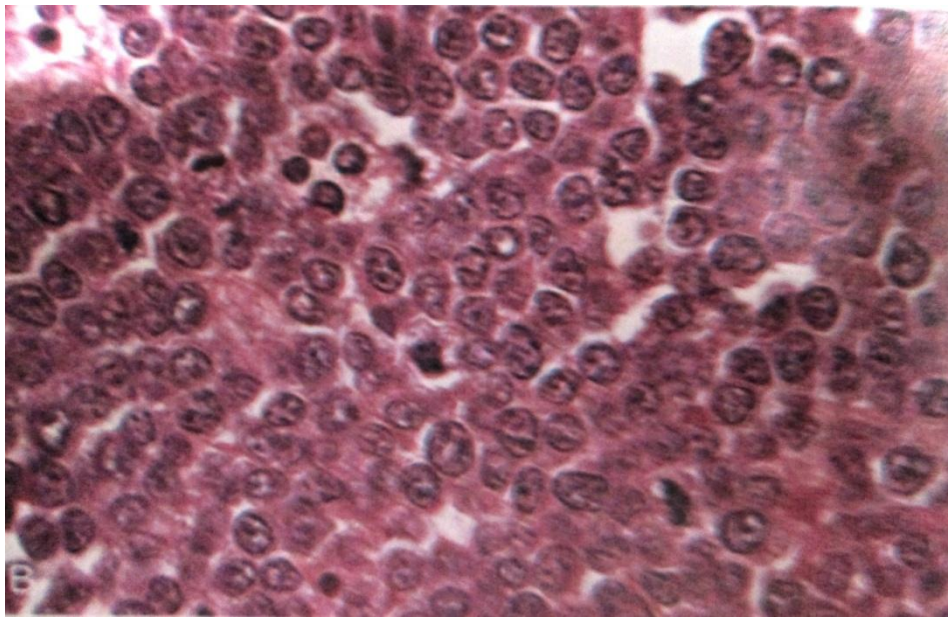


Figure 4: Histopathology, 40x. Tumor cells with multiple nucleoli & high mitotic index.

Discussion

Burkitt's lymphoma is a highly aggressive non-hodgkin lymphoma that has the highest cell proliferation rate among human neoplasms (Biko *et al.*, 2009; Boerma *et al.*, 2004). It is composed of small, non diffuse, undifferentiated malignant cells of lymphoid origin (Ugar *et al.*, 2006). It is the fastest growing human tumor (Ugar *et al.*, 2006; Armitage *et al.*). Burkitt's lymphoma was first described by dennis Burkitt in 1957 in equatorial Africa (Muchmore *et al.*, 1994). Burkitt's lymphoma can be distinguished histologically and cytologically from other form of malignant lymphomas. Histological section shows on undifferentiated type of B-cell lymphoma. The sheets of tumor cells are interspersed with large pale macrophages providing the starry sky appearance (Adatia *et al.*, 1993).

Asymptomatic enlargement of the cervical lymphnode chain is a common early sign (Burkitt D 1967). Suspicion of lymphoma should increase when lymphadenopathy appears without sign of infection or there is

involvement of more than one lymphnode chain or a lymphnode 1 cm or greater in diameter persisting for more than one month (Biko *et al.*, 2009) In our case the child presented with fever, pallor, cough, abdominal distension, swelling of both lower limbs and enlargement of lymphnode. In our case cervical lymphadenopathy is a very rare in endemic form but more common in sporadic form of burkitt's lymphoma (Biko *et al.*, 2009; Armitage *et al.*). It affects older children with age more than 10 years and has no gender predilection (Regaezi *et al.*, 2003). In Burkitt's lymphoma, the most common site of presentation is abdomen { Regaezi *et al.*, 2003; Yih *et al.*, 1990}.

USG shows small submucosal nodules and regional lymphnode enlargement. C.T. Scan shows a thickened bowel wall, which shows nodular, either diffuse or focal with discrete mesenteric lymphnode masses (Joseph *et al.*, Petitm *et al.*, 1994). Regional lymphnode enlargement may be visualized (Wilson *et al.*).

The definitive diagnosis of Burkitt's lymphoma was made in the histopathological examination of an incisional biopsy. Child was treated with high doses of chemotherapeutic agent. A recent report suggests that a combination of cyclophosphamide, vincristine and methotrexate gives better result than any single drug (Adatia *et al.*, 1993; Petitm *et al.*, 1994). With combination of chemotherapy, the overall 2 years survival rate is 55% with range of 80% for low stage disease and 40% for the advanced stage disease (Burkitt 1967).

Conclusion

Burkitt's lymphoma is uncommon type of non-hodgkin's lymphoma. Burkitt's lymphoma involving lymphnode is extremely rare in children. Burkitt's lymphoma is highly curable and the majority of children with the disease are cured with short course of chemotherapy. It is necessary for the management and treatment of the tumor to improve the prognosis of Burkitt's lymphoma. It usually presents with fever, enlargement of multiple groups of lymphnodes commonly mesenteric and cervical region and loss of weight. A 10 year old male child diagnosed and treated at our institution.

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