Splenomegaly; alarming sign; Lymphadenopathy not benign in children referred to tertiary center

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Introduction

It Is not uncommon problem; whether local (mostly due to infection in draining area) or generalized commonly as part of CMV or EBV, however malignant origin could not be excluded easily. Site, size and LN characteristics as well as associated symptoms and signs. Sick kids are usually seen initially by pediatrician; they either manage acute cases, or referred to either pediatric infectious specialist or to pediatric Hem/Onc; Pediatric surgeons are often called upon to evaluate, treat, and/or biopsy enlarged lymph nodes.

OBJECTIVE

This study aimed to find-out differences in LN referred to Ain Shams tertiary general or Pediatric oncology out-patient clinic.

Methods

SETTING: Pediatric hematology oncology unit, Ain Shams University, Pediatric hospital

- **All children over 2-16 years old both sexes; over 4 years period from June 2018-2022; presented with LN for more than 2 weeks whether referred to our general Pediatrics or Pediatric Oncology out-patient clinics were enrolled in the study.**
- **while referred cases with final diagnosis for second opinion were excluded. Patients were evaluated according to clinical presentation; whether; CBC or viral serology for CMV and EBV, bone marrow aspiration, biopsy were performed if leukemia or stage 4 lymphoma were suspected.**
- **Imaging; whether ultrasonography, CT scan, while PET scan only for staging and follow-up of the children with cancer response. Biopsy with (fine needle was excluded, either core needle or open surgery**

RESULTS

- **874 children, 56% males aged 2-16 years (median 7 y) acute Bacterial related (LNs) were excluded (n= 412). 462 were enrolled; referred either to general pediatrics clinic (n=213) only (n=4; 1.9 %) were malignant; or referred to pediatric oncology clinic (n=249) 15.8%; were acute leukemia (n=24), lymphoma (n=11); 40% of them non-Hodgkin, secondary infiltration (n=4)**
- **while non-malignant (n=15) 6%; possibly missed with malignancy were; Non-Covid HLH (n=4),collagen(n=5),Common variable immune deficiency (n=2), ALPS (n=4).**
- **Meanwhile, viral infection was commonest in the group presented to general pediatrics; n=166 (56% were EBV and 22% CMV infection; boys were affected more often (1.4:1). No difference in frequency of high temperature, sore throat, bad breath, and respiratory symptomatology between examined children in both conditions. Splenomegaly was more frequent with malignant lymphadenopathy; difference between both groups was not statistically significant.**
- **Odds ratio (4.5) for Risk for being leukemia (associated Fever > 2 weeks. Purpura, bone aches, generalized LN, non regressive, firm and non-tender was more risk for non-infectious LN (Odds ratio 3.2) Delay in diagnosis was 4-47 days (median 19 days).**
- **Bone marrow was done in 59 cases and was positive in half of cases as acut l. Most reported investigations were CBC (100%), EB, CMV IgM (66%), ESR (50%), Imaging (Local Ultrasound 80%), CT chest or abdomen in 25% and 10% had CT guided biopsy.**

Conclusions

EBV infection was the commonest viral infection; leukemia was rare among studied children. Alarming signs were > 2 weeks FUO, bone aches non-regressive course and to less extent splenomegaly.