patients had clinically significant complications at the time of insertion.
Of 114PICCs analyzed in 106 children, median age was 7.5years (range 1-18yrs); haematological malignancies constituted 78.3% (83/106).The median catheter life was 155.5days with a total of 17,941 catheter days.Elective removal was done in 57% (65/114).Another 34 (29.8%).patients are currently on therapy.Five patients (4.4%) were lost to follow up.Incidence of AE was 0.725 per 1,000 catheter days. Removal due to AE was required in 8.8% (10/114). AE included suspected infection (5/13), documented line infection (3/13; gram negative=2, gram positive =1), accidental extrusion (2/13), exit site skin necrosis (3/13) with AE incidence of 0.279, 0.167, 0.111 and 0.167per 1000 catheter days respectively.
Among 30 surgically implanted CVADs in 30 children, the median age was 6 years (10 months – 18 years).Solid tumors, hematological malignancies and benign haematological diseases constituted 66.6% (20/30),16.7% (5/30) and16.7% (5/30) respectively. All Hickman catheters were inserted in patients undergoing bone marrow transplant. Median CVAD life was 147 days with a total of 4983 CVAD days. Elective removal was done in 26.6% (8/30), treatment is ongoing in 56.6% (17/30).AE rate was 1.204 per 1,000 catheter days (6/30) which included catheter tip migration in a left IJV chemoport managed without removal. Reasons for catheter removal were suspected infection (3/5), tunnel track infection in Hickman (1/5) and partial port extrusion (1/5) with AE rates of 0.602,0.201 and 0.201per 1000 catheter days respectively.None of the catheter tip cultures yielded any organisms.
Age, diagnosis and type of catheter were not statistically significant but number of catheter days was a statistically significant predictor of AE (P=0.0063).
Conclusion: CVADs are a safe and a reliable method of securing vascular access in children with malignancies.Tunnelled catheters have more complications compared to PICC albeit with an acceptable and manageable incidence.

TM_SC-1_V1.13
SPECTRUM OF RESPIRATORY VIRAL INFECTIONS IN CHILDREN WITH CANCERS: EXPERIENCE FROM A TERTIARY CANCER CENTRE IN EASTERN INDIA

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Objectives: Pattern of respiratory viral infections (RVI) in children with cancers is not well characterized in India. We conducted this study to determine the spectrum, incidence of fever-neutropenia, need for hospital admission, economic burden, and outcome (concomitant bacterial infections, need for ICU care, and death) of RVI in our pediatric-oncology unit.
Methods: Data was collected retrospectively from July 2015-April 2016. All children (<18-years) with symptoms of an upper respiratory tract infection (fever/cough/rhinorrhea) were included. Nasal and throat swabs were collected in Hi-Viral transport medium and analyzed using duplex Real Time PCR with Taqman Probes-Vi. Children with Influenza A/B received oseltamivir; those with symptomatic Respiratory Syncitial Virus (RSV) received ribavirin. All children with fever-neutropenia received intravenous antibiotics as per unit protocol.
Results: 104 viral isolates were identified in 89 patients. Median age was 5.5-years (range: 1.4-17.8); 65% were males. Majority of the episodes (91%) were in haemato-lymphoid malignancies. For children on treatment for ALL, 35 (42%) were in intensive and 48 (58%) in non-intensive phase of chemotherapy. Clinical features included: fever (89.5%), cough (71%), rhinorrhea (25%), chest-signs (25%), vomiting (12.5%), diarrhea (5.5%), rash (2%). Commonest isolate was Influenza-A (36.5%) followed by RSV (22.1%), Coronavirus (9.6%), Metapneumovirus (8.7%), Parainfluenza (8.7%), Influenza-B (6.7%), Adenovirus (1.9%) and Rhinovirus (1.9%). Multiple viruses were found in 4 (3.8%). Hematological parameters at presentation included: hemoglobin (median:9.9g%, IQR 8.7;11.1), platelet (median:1,41,605/mm^3, IQR 60,000;1,95,750), neutrophil count (median:1962/mm^3; IQR 390;2446), lymphocyte count (median:1277/mm^3, IQR 300;1155), Neutrophil:lymphocyte ratio (NLR) (median:3.5; IQR0.3-4.2).
Overall, 50% of episodes warranted admission; majority (88.5%) with fever-neutropenia. Concomitant bacterial infection was documented in 11 (10.5%) episodes, with *Pseudomonas* (5;45%) being the commonest isolate. One died (0.9%) following *Acinetobacter* sepsis with RSV infection. Twenty-five (54%) required empirical escalation of antibiotics due to persistent fever-neutropenia; 7 (28%) had a proven bacterial isolate. Six/104 (5.7%) children needed ICU admission; 5 (83%) had concomitant bacteremia (p<0.001).Median duration of neutropenia was 12-days (range:1-47). Median duration of hospital-stay was 8-days (range:1-35).Median cost of admission was INR 22,466 (range:2,176-1,15,160).Cost and duration of stay was significantly more in children with concomitant bacteremia (p=0.002). Median cost for children with RVI and no bacteremia, whose antibiotics were escalated empirically (median INR 60,217, IQR 41,131; 1,24,037), was significantly higher than those who stayed on 1st-line antibiotics (median INR 11,503, IQR 2,699;24,868) (p<0.001).
On univariate analysis, significant predictor of bacteremia in RVI was low hemoglobin (p=0.01). Median hemoglobin in children with bacteremia (8.4g%, IQR 6.6;9.8) was significantly lower than those without bacteremia (10g%; IQR 9;11.3; p=0.06). Age (p=0.8), gender (p=0.5), underlying malignancy (p=0.6), intensive chemotherapy (p=0.1), neutrophil count (p=0.1), duration of neutropenia (p=0.72), lymphocyte count (p=0.9), platelet count (p=0.1) and NLR (p=0.1), failed to predict bacteremia.
Conclusion: Documented RVI in children with cancers does not preclude bacteremia. However, cost of care gets significantly increased for children with RVI and persistent fever-neutropenia, even with no bacteremia, when empirically escalated to higher antibiotics as per protocol (p<0.001). A prospective study is needed to analyze whether the protocol for antibiotic-escalation can be better rationalized in this cohort.

TM_SC-1_V1.14
METABOLIC SYNDROME IN CHILDHOOD CANCER – SINGLE CENTRE EXPERIENCE

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Introduction: Reavan in 1988 noted that several risk factors for cardiovascular diseases commonly cluster together, and he recognised them as a disease, named syndrome X, currently known as metabolic syndrome.Metabolic syndrome is a group of disorders related to insulin resistance, characterized clinically by central obesity, hyperglycemia, dyslipidemia and hypertension. There is a growing body of evidence indicating that pediatric cancer survivors are at a greater risk of developing metabolic syndrome. We studied the prevalence of metabolic syndrome in children with cancer who completed their treatment and on follow up.
Methodology: All relevant past medical data (of the disease, treatment and all events) were collected from the medical records.Tanner staging was perfomred, Height was measured using a Harpenden stadiometer. Weight/WAIST circumference were measured. The body mass index (BMI) was calculated as weight (kg)/(height $(m)^2$).BMI $\geq 90^{th}$ centile as per CDC chart was taken as abnormal. Blood pressure was measured on the right arm of the patient. Presence of family history of diabetes, cardiovascular diseases and hypercholesterolemia were taken. Fasting Blood sugar, insulin, HbA1C, lipid profile were done. We used IDF (International diabetes federation) criteria to assess the metabolic syndrome among cancer survivors. This study was approved by our university ethics comittee.
Results: Seventy five children who fulfilled the inclusion criteria were included in this study. Out of which 48 were males and 27 were females. Among these, majority of children are treated for acute lymphoblastic leukemia. 8.25% of total population satisfied the criteria of metabolic syndrome. Age, gender, diagnosis, modality of treatment were not to be of statistical significance, however majority of children with metabolic syndrome are in adolescent group.
Conclusion: With the better care committed to children with cancer even in developing country, the survival rates are greatly improving and so metabolic syndrome is becoming the major target for intervention in the follow up of cancer survivors. As metabolic syndrome cannot treated by a single drug therapy, it is necessary to have cancer survivors follow up screening.