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Objective We aimed to define the etiologic features, outcome of liveborn hydrops fetalis and identify predictors of mortality in a single tertiary unit over an 11-year period.

Method Medical records of liveborn neonates with hydrops fetalis between 2000–2011 were reviewed retrospectively. Demographic data, antenatal interventions clinical manifestations, laboratory findings, outcomes and complete or partial autopsy records were analyzed.

Results Twenty six live born cases of hydrops fetalis with a sex distribution of 33 males and 29 females from the 16,200 live born deliveries in our hospital; an incidence of 3.8/1000 live births. 28 infants (45%) were diagnosed as immune hydrops fetalis. Overall, 32 infants (50%) survived to discharge. The survival rates were comparable within the immune and nonimmune etiology (43% vs. 53%, $p>0.05$). Of the 34 nonimmune hydrops fetalis (NIHF) cases, a plausible cause could be found for 24 (70.5%). Post-mortem examinations were performed in 11 cases of 16 non-surviving infants with NIHF. The two factors that were associated independently with mortality in the stepwise multiple logistic regression analyses were a low 5 minute Apgar score and the need for surfactant treatment.

Conclusion Despite the improvements in postnatal care mortality rates are high and treatment options are still limited. The prenatal and postnatal procedures to improve lung capacity and function are necessary to achieve favorable outcome.

801 VERY LOW BIRTH WEIGHT INFANTS IN ADNAN MENDERES UNIVERSITY NEONATAL INTENSIVE CARE UNIT

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Background we retrospectively assessed mortality and morbidity rates of very low birth weight infants followed in Adnan Menderes University Neonatal Intensive Care Unit (NICU).

Methods 73 newborns with birth weight lower than 1500 g and gestational age under 32 weeks followed between January 2009 and December 2011 were included. Demographic characteristics, perinatal events, postnatal complications, duration of mechanical ventilation, mortality rates, length of hospital stay were investigated.

Results Mean gestational age was 28.1 ± 2.4 (23–32) weeks, mean birth weight was 1116.8 ± 247.6 (600–1500) g, mean mother age was 27.1 ± 6.2 (17–41). Median duration of ventilation was 173.4 ± 182.2 (0–912) hours. Twenty % of the cases died; with median gestational age of 26.3 ± 3.3 (23–32) weeks and median birth weight of 886 ± 310 (600–1450) g. Sixty-four % of the babies had mechanical ventilation support. Incidence of PDA, NEC, ROP were 19%, 13.6%, 19% respectively. Nineteen % of the infants had intracranial hemorrhage. Six infants had neurological abnormalities at discharge.

Abstract 801 Table 1 Characteristics of the infants

	%
male	55
vaginal delivery	38
Antenatal Steroid	30
Mechanical Ventilation	64
Patent Ductus Arteriosus	19
Necrotizing Enterocolitis	13.6
Retinopathy of prematurity	19
late neonatal sepsis	23.7
intracranial hemorrhage	19

Conclusion Overall survival rates of our unit were found to be similar with previously reported rates from our country. Gestational age and birth weight correlated with survival and morbidity rates. Assessing outcomes of our NICU will provide us not only a new approach on understanding and management of these infants but also bring a perspective on predicting the prognosis and informing parents.

802 CAUSES AND CONTRIBUTING FACTORS LEADING TO EXCHANGE TRANSFUSION :10 YEAR EXPERIENCE AT ADNAN MENDERES UNIVERSITY NEONATAL INTENSIVE CARE UNIT

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Background and Aims Jaundice is one of the most common problems in newborn period. Infants at risk for severe hyperbilirubinemia should be identified and closely monitored in order to avoid kernicterus. This study was performed to identify the etiology and sociodemographic characteristics of newborns with severe indirect hyperbilirubinemia who had exchange transfusion.

Methods The study sample included all infants who were undergone exchange transfusion at Adnan Menderes University NICU from January 2000 through December 2010. Hospital records were reviewed. Blood groups, direct Coombs test, whole blood count, peripheral blood smear, CRP, reticulocyte count, total, direct bilirubin levels, Tandem mass, G6PD and pyruvate kinase levels, urinalysis and urine culture, reducing substance in urine were investigated.

Results Sixty-five of the patients were male, 26.5% preterm. Mean gestational age was 39.3 ± 1.4 for term infants, 35 ± 1.1 weeks for preterms. Mean serum total bilirubin level was 25 ± 6.3 mg/dl. Twenty-four % of the patients had Rh incompatibility, %24.5 had ABO incompatibility, 6.1% had both Rh and ABO incompatibility, %4.1 G-6-PD deficient, 12.2% had early breast milk jaundice, % 12.2 had sepsis, 6.1% had hemolysis of unknown etiology. In five babies no etiology was discovered.

Conclusions Most of the infants had Rh or ABO incompatibility, who were vaginally delivered, discharged within 24 hours of birth and exclusively breastfed. Since mean age at admission was 3.4 ± 3.7 days, serum total bilirubin levels should be measured before discharge and discharge should be delayed in high risk babies.

803 EFFECT OF BODY WEIGHT ON THE OUTCOME OF VENTRICULAR SEPTAL DEFECT REPAIR

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Introduction Low body weight and failure to thrive (FTT) often are considered limiting factors for open heart surgery. The purpose of our study is to assess the impact of FTT on ICU outcome of children undergoing Ventricular septal defect repair.

Methods A retrospective Study including all children less than 2 years who had VSD closure by open heart surgery during the period 2002–2010. Children were divided into 2 groups based on their weight for age using standard growth charts. Those with normal or mild failure to thrive (Z score > -3) are labeled as group A. group B included all children with severe failure to thrive (Z score ≤ -3). Both groups were compared in term of all operative and early post-operative outcome parameters.

Results 145 patients were included. 58 cases in group A and 87 patients in group B. The age and weight in group A was (8 ± 5.16

months) and (6.31±1.75 kg) respectively. The age and weight in group B was (7.6±3.9 months) and (4.84±1.12) kg respectively. There were no significant differences between the 2 groups in term of post operative mortality or morbidity.

Conclusion Failure to thrive can complicate congenital heart diseases (CHD) associated with significant left to right shunt and heart failure. FTT was not associated with increase in ICU morbidity or mortality. Attempt to optimize the body weight for age in children with CHD may not add any beneficial advantages in term of surgical risk or postoperative ICU outcome.

804 OUTCOMES OF PEDIATRIC TETANUS IN WESTERN INDIA

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Background Despite being easily preventable with a highly effective vaccine, tetanus remains a significant source of morbidity and mortality. We determined the clinical profile and outcome of management of paediatric tetanus admitted to our tertiary care hospital over 7 years.

Methods Retrospective chart evaluation of all patients admitted from 2005 to 2012 between age groups of 1 month and 18 years. Demographic and Clinical Profile, Management in the hospital and variables affecting outcomes were studied.

Results 65 patients (43 males, 22 girls) were admitted. Average age was 8.4 years. 12 children died, 32 discharged while 21 were transferred to another facility. 24/65 were unvaccinated, 21/65 partially vaccinated and 10 received proper immunization. Average incubation period (IP) was 7 days with patients with otogenic tetanus having IP of 15 days. 19 patients were ventilated for average duration of 5.74 days while 18 required tracheotomy. 25 patients had laryngeal spasms and 7 had autonomic instability. 14 patients did not receive Tetanus Immunoglobulin (TIG) while 51 received TIG in various forms (intrathecal, intramuscular or both). 5 patients who received only intrathecal survived while 13 of 19 that received both survived. 3/27 who received intramuscular tetanus died and 3/14 who received no TIG died. Odd Ratio for Death in No TIG use vs TIG use was 1.16 (CI 0.26.6, 5.3).

Conclusions Tetanus is prevalent in India and causes significant morbidity and mortality. 27.3% mortality shows that treating tetanus is still difficult. Use of intrathecal TIG was not associated with a beneficial effect.

805 PROSPECTIVE OBSERVATIONAL STUDY OF COMPLICATIONS OF CENTRAL VENOUS CATHETERISATION IN A REGIONAL PAEDIATRIC INTENSIVE CARE UNIT

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Background and Aims Central Venous Catheter (CVC) has become an indispensable route for venous access in Paediatric Intensive Care Units (PICU). Used worldwide to monitor haemodynamic status, administer fluids, medication, parenteral nutrition and for blood sampling.

To evaluate various complication rates of triple lumen CVC in PICU.

To investigate the relationship between the duration of percutaneous central venous catheterisation and the occurrence of catheter-related complications.

Methods A prospective study (August 2010 to July 2011) of 227 central venous catheterisations in children of different ages in a regional PICU. Data on demography, site of insertion, complications during insertion and complications during line in-situ were collected.

Results Total number of CVC days (for 227 CVC) was 960 days.

Complications during insertion were multiple attempts (4.84%), bleeding (0.88%) and haemothorax (0.44%).

Abstract 805 Table 1 Central venous catheter complication rates

Type of complication	Infection	Thrombosis	Leakage
Complication rates	22.91 per 1000 catheter days	4.16 per 1000 catheter days	18.75 per 1000 catheter days

Abstract 805 Table 2 Complication in relation to duration of CVC

Type of complication	Number of catheters	Total catheter days	Average duration of one CVC in-situ in days
Infection	22	188	8.54
Leakage	17	129	7.5
Thrombosis	4	14	3.5
No complications	177	629	3.55

Abstract 805 Table 3 Internal jugular vein vs femoral vein

	Internal jugular vein	Femoral vein	Relative risk
CVC infection	11/127 (8.66%)	11/90 (12.22%)	1.4

Conclusion Overall complication rates of CVC is 45 per 1000 catheter days.

Infectious complications were independent of the venous access site, but increases with the duration of catheterisation. Thrombotic complications happened within short period of catheterisation.

806 ARTERIAL OXYGEN TENSION AND OUTCOME AFTER OUT-OF-HOSPITAL CARDIAC ARREST IN CHILDREN

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Background There is good evidence that hyperoxia after resuscitation in the newborn period can be detrimental to neurological outcome and survival. The association between hyperoxia and survival after out-of-hospital cardiac arrest (OHCA) in children has not been evaluated.

Methods A retrospective, observational study of children admitted to 3 PICUs after OHCA (2004–2010). Primary outcome was survival to hospital discharge. Patients were divided into three groups (hypoxia < 8kPa, normoxia 8–40kPa, hyperoxia >40kPa) based on arterial oxygen tension in the first 24 hours. The PaO₂ thresholds used are based on recently published literature.

Results 140 patients were identified (51 hypoxia, 60 normoxia, 29 hyperoxia), with the hyperoxia group significantly older than other groups (Table). The predicted probability of death (PIM2) at PICU admission was similar across the three groups, as was the use of interventions, such as transfer between hospitals and requirement for inotropes. Survival to hospital discharge was only 14% (95% CI: 4–31) in the hyperoxia group against 27% (95% CI: 16–40) in the normoxia group and 37% (95% CI: 24–52) in the hypoxia group (p=0.08). The Odds Ratio for survival in the hyperoxia group was 0.44 (95% CI: 0.13–1.46, p=0.18) compared to the normoxia group.