SUMMARY

The intensive care unit is an expensive treatment facility where critical patients with high mortality rates are treated. Estimation of disease severity and probability of death are important elements in determining the prognosis of patients in PICU. Such prognostic predictors need to be informed to the parents clearly to explain the objectives of treatment and to involve them in decision making process. Imperfections in informing prognosis will lead to inconvenience and uncomfortable situations for the patient's family.

An objective and rational method to determine and estimate the severity of illness is by using a probability model which can predict mortality risks. For this reason, a scoring system is necessary to be developed. Currently, scoring systems have been developed to estimate the probability of hospital mortality for intensive care unit (ICU) patients.

Multiple organ failure syndrome remains a dangerous clinical problem. UnFortunately, most cases of Multiple organ failure syndrome are critical and need special care.

Hence, the aim of this study is to detect the incidence Multiple organ failure syndrome in our PICU and to stand on its most important causes.

These scoring systems, which can predict mortality of multiple organ dysfunction syndrome (MODS) outcomes, are available for both adults and children. Three MODS scores have been validated for adult

patients, but only one MODS score for children, i.e., the pediatric logistic organ dysfunction (PELOD) scoring system.

In the present study, our aim to detect incidence of multiple organ failure in Benha University Hospital PICU.

To achieve this target, we prospectively studied a series of 145 consecutive patients admitted to Benha University Hospital PICU in during the period from January 2011 to July 2011... with different clinical problems. The consultant pediatrician assisted in providing the clinical provisional diagnosis and in obtaining the consent of the parents.

- Results revealed the following:

Our cases were divided according to provisional diagnosis into 7 groups "encephalitis, head trauma, polytrauma , pneumonia ,HAV infection,cholestasis and milk aspiration".

- all cases admitted in our PICU investigated The following investigations:
    - ABG
    - P.T
    - SGOT&SGPT
    - Bilirubin(Total and Direct)
    - Blood urea
    - Blood creatinin
    - CBC
    - ECG

Glasgow Coma Scale was done to all patients and revealed that about 60% of patients with MOFS had GCS < 6

The result of this study revealed that Encephalitis head trauma and pneumonia were the most common provisional diagnosis **(24%)** among patients with MOFS. The second most common diagnosis among patients with MOFS in this study was cholestasis **(١٢%),** followed by poly trauma which represent **(8%)** of our study group finally HAV infection and milk aspiration represent the least common causes of MOFS (4%).

The highest Percentage of death in this study was due to milk aspiration (100%) followed by encephalitis (83.3%) followed by head trauma (16.75).

There was a significant positive correlation between MOFS and kidney function , liver function and PCO2 .

On the other hand there was highly significant negative correlation between MOFS and Glasgow Coma Scale , HB% and platelet count.
There is direct proportion between PELOD score and mortality rate.

- The high sensitivity and specificity of PELOD score showed in this study in Benha University Hospital PICU and Benha Children Hospital PICU demonstrate that PELOD score is a good method to predict the mortality in PICUS.