**Introduction:**
Drug-induced thrombocytopenia are severe complications in intensive care unit (ICU) that can be associated with significant morbidity and mortality. The aim of this study is to investigate the etiology and risk factors of the drug-induced thrombocytopenia associated with various drugs in the ICU.

**Methods:**
One hundred and forty-four critically ill patients during the 6 months entered into this study. Patients monitored for 14 days after ICU admission. During this period of time complete blood count, ALT, AST, Serum creatinine, Lactate, blood PH, Na, K, Mg and calcium measured before, 7, and 14 days’ post ICU admission. During this period of time SOFA score, APACHE II Score, RASS Score, concurrent disease, sepsis, drugs with exact dosage and time of administration investigated daily. The study was a descriptive and analytical that conducted in the general and surgical ICUs. Patients had at least 18 years old age who had been admitted to the ICU for more than 48 hours. Full medical and hematological, biochemical profile and history and all drug were recorded and analyzed.

**Results:**
The total of 144 patients was included. The incidence of thrombocytopenia was 45.9% and the highest rate was recorded in the period of 3-5 days post ICU admission (30.1%). There was no correlation between age, sex, the cause of admission, type of ICU, mechanical ventilation and rate of thrombocytopenia. Underlying diseases such as diabetes mellitus, Serum creatinine level and mean atrial pressure had a correlation with thrombocytopenia. APACHE II and SOFA scores were a significant positive correlation with thrombocytopenia (P<0.001, P=0.005). Drugs include vancomycin, fluoroquinolones, digoxin, and colistin has a correlation with thrombocytopenia (P<0.001).

**Conclusion:**
The incidence of thrombocytopenia in the patients admitted to the ICU was high. Thrombocytopenia could an indicator for severity of the diseases. Therefore, determination of thrombocytopenia and it´s etiology in the ICU is very important.