**Objective:** To assess whether platelet indices [platelet count, mean platelet volume (MPV), platelet distribution width (PDW)) and plateletcrit (PCT) could serve as diagnostic tools to differentiate between primary and secondary thrombocytosis.

**Subjects and Methods:**
A total of 83 Iraqi patients with thrombocytosis attending the Iraqi centre for cancer research & medical genetics and the National Iraqi Centre for Blood Diseases were included in this prospective case series study. A group of 20 healthy persons were included as a control. Complete blood count was done using Mindwayhaematologicautoanalyser.

**Results:** Mean platelet volume, platelet distribution width & plateletcrit in primary thrombocytosis were significantly higher than in secondary thrombocytosis. In primary thrombocytosis group platelet count inversely correlate with both Hb & MCV, while in secondary thrombocytosis platelet count inversely correlates with MCV only but less significantly than the correlation found in primary thrombocytosis.

**Conclusions:** MPV, PDW and PCT can be used as helpful parameters in the differential diagnosis of thrombocytosis.