

### **Dose Efficiency of Enteral Ibuprofen in Treatment of Patent Ductus Arteriosus in Premature Infants**

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Hemodynamically significant patent ductus arteriosus (PDA) in premature infants must be closed due to the risk of serious morbidities. Enteral ibuprofen (EIBU) looks innocent compared with surgery and indomethacin but is not completely harmless. The aim of this study was to evaluate the efficiency of EIBU after each dose administered for PDA closure.

Sixty premature infants ( $\leq 33$  week) who have hemodynamically significant PDA included in the study and treated with enteral ibuprofen. The first dose of IBU is administered via nasogastric tube in a dose of 10 mg/kg. Afterwards, 2 more doses of OIBU in a dose of 5 mg/kg are given at every 24 hours.

Echocardiographic examination was performed after 24 hour of each doses. Treatment was stopped when the PDA is closed. Patients whose PDAs closed with ibuprofen treatment were followed in terms of recanalization. Treatment was continued in the absence of complications and if PDA wasn't closed until three courses were completed.

The closure rate after the first dose was 29.3%, second doses 32.7% and third doses 22.4%. At the end of first course, total closure rate was 84.4%. Among patients whose PDAs were closed after the first second and third doses, recanalization rates were 3.3%, 1.6% and 1.6%, respectively.

Complications were infrequent, fairly mild and improved spontaneously in a short time. The mean PDA diameter of patients who did not respond to EIBU was significantly larger than that of responders ( $p=0.042$ ). Also, patients with larger PDA diameter needed more EIBU doses for closure ( $p=0.012$ ).

Our results indicate that a in high number of preterm infants with hspDA, ductal closure can be achieved with one or two doses of EIBU. Performing echocardiography after each dose can minimize unnecessary drug exposure and so possibly the side effects.