

## Efek parasetamol intravena dalam penutupan duktus arteriosus persisten pada bayi prematur = The effect of intravenous paracetamol on closure of patent ductus arteriosus in premature babies / Rizky Adriansyah

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### Abstrak

#### <b>ABSTRAK</b><br>

Latar Belakang. Indometasin dan ibuprofen merupakan standar obat yang digunakan untuk menutup duktus arteriosus persisten dengan gangguan hemodinamik signifikan (hemodynamically significant patent ductus arteriosus, hs-PDA). Sediaan injeksi intravena dari kedua obat tersebut belum tersedia di Indonesia.

Beberapa laporan kasus serial sebelumnya menunjukkan parasetamol intravena dapat menjadi alternatif pengobatan hs-PDA pada bayi prematur.

Tujuan. Untuk mengevaluasi efek parasetamol intravena dalam penutupan PDA pada bayi prematur.

Metode. Desain kuasi-eksperimental dilakukan mulai 15 Mei sampai 31 Agustus 2014 di Rumah Sakit Umum Pusat Dr. Cipto Mangunkusumo, Jakarta. Kriteria diagnosis hs-PDA berdasarkan ekokardiografi dan diameter duktus diukur dari pandangan parasternal sumbu pendek atau pandangan suprasternal sumbu panjang. Bayi prematur usia 2-7 hari diberikan parasetamol intravena dosis 15 mg/kg tiap 6 jam diberikan selama 3-6 hari dan dipantau sampai usia kronologis 14 hari. Uji Fischer exact digunakan untuk menilai hubungan antara kelompok bayi dengan penutupan PDA. Uji t berpasangan digunakan untuk menilai perubahan diameter duktus antara sebelum dan sesudah intervensi. Hasil penelitian dinyatakan bermakna jika  $P < 0,05$ .

Hasil. Sebanyak 29 bayi diikutsertakan dalam penelitian. Rerata usia gestasi 30,8 minggu dan berat lahir 1347 gram. Sembilan belas berhasil menutup, 1 reopening, 9 gagal menutup, dan tidak ditemukan intoksikasi hati. Tidak ada perbedaan bermakna antara kelompok bayi berdasarkan usia gestasi dan berat lahir dalam penutupan PDA. Rerata diameter duktus sebelum intervensi 3,0 mm dan saat pemantauan usia empatbelas hari 0,6 mm. Diameter duktus berkurang sebelum dan sesudah intervensi ( $P < 0,0001$ ).

Kesimpulan. Parasetamol intravena efektif dalam penutupan PDA pada bayi prematur.

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#### <b>ABSTRACT</b><br>

Introduction. Indomethacin and ibuprofen are standard drugs for closing hemodynamically significant patent ductus arteriosus (hs-PDA) in premature babies. Intravenous injection for both drugs is not yet available in Indonesia. Some previous case series shown intravenous paracetamol can be used as an alternative treatment of hs-PDA in premature babies.

Objective. To evaluate intravenous paracetamol effect on closure of PDA in premature babies.

Methods. Quasi-experimental design was conducted from May 15th to August 31th 2014 in the Dr.

Ciptomangunkusumo General Hospital. Echocardiographic diagnosis of PDA was measured from parasternal-short-axis-view or suprasternal-long-axis-view. The premature babies aged 2 to 7 days were administered intravenous paracetamol of 15 mg/kg every six hours for a-3 day cycle and followed up to chronological age of 14 days. Fischer exact test was used to assess the association between babies group and closure of PDA. Pair t test was used to evaluate duct diameter between before, after intervention, and a-14

day follow up.  $P < 0.05$  was considered as statistically significant.

Results. Twenty-nine babies were included. Mean of gestational age was 30.8 weeks and birth weight was 1347 gram. Nineteen (65.5%) cases were successfully closed, 1 case reopening, 8 cases failed, and no hepatic intoxication seen. No significant differences between babies group on closure of PDA. The mean of duct diameter before, after intervention, and a-14 day follow up were 3.0 mm, 0.9 mm, and 0.6 mm, respectively ( $P < 0.0001$ ).

Conclusion. Intravenous paracetamol is quite effective on closure of PDA in premature babies.