Poster

[P27-9] P27-9: Pharmacokinetics and PK/PD

Chair: Kosuke Doki, Japan

Wed. Sep 27, 2017 12:30 PM - 1:30 PM Annex Hall (1F)

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[P27-9-10] Serum concentrations of sulfate and glucuronide conjugates of Ritodrine in twin pregnancy

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Keywords: ritodrine, conjugate, sulfate, glucuronide, serum concentration

Background

Ritodrine is a highly selective beta-2 agonist for the treatment of threatened premature labor. In order to clarify the factor of fluctuation of total clearance of unchanged ritodrine, the serum concentration of two metabolites of ritodrine was measured.

Methods

The subjects were 9 twin-pregnancy mothers who delivered after receiving intravenous ritodrine treatment between April 2012 and December 2013. The sulfate and glucuronide conjugates of ritodrine in serum were deconjugated using their specific enzymes. Ritodrine concentrations were measured by liquid chromatography–tandem mass spectrometry. This study was approved by the Ethics Committee of Tenshi Hospital (No. 053).

Results

The continuous infusion rate of ritodrine was 2.66±0.67 μg/min/kg (mean±SD), and the average serum concentration of unchanged ritodrine was 118.8±33.2 ng/mL. During the study period between week 32 and week 36 of gestation, the average ratios of the serum concentrations of unchanged ritodrine and of the sulfate conjugate of ritodrine for weeks 32, 33, 34, 35, and 36 were 1.7, 1.9, 1.5, 1.7, and 1.7 (N.S.), respectively. The average ratios of the serum concentrations of unchanged ritodrine and of the glucuronide conjugate of ritodrine were 1.8, 2.2, 1.9, 1.8, and 2.1 (N.S.), respectively.

Conclusions

No significant differences were found in the ratios of the serum concentrations of unchanged ritodrine and of the sulfate or glucuronide conjugates, although large individual differences were observed in the serum concentrations of the sulfate and glucuronide conjugates through the gestational period.