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I.G.M. Fabry, P. De Paepe, L. Van Bortel

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Poster Presentation Abstracts Therapeutic Aspects 1

P4.01 EFFECTS OF TOCOLYTICAL MEDICATIONS ON THE PERIPHERAL AND CENTRAL HEMODYNAMICS OF HEALTHY FEMALE VOLUNTEERS

I. G. M. Fabry², P. De Paepé¹, L. Van Bortel¹

¹Heymans Institute of Pharmacology, Ghent University, B-9000 Ghent, Belgium

²Drug Research Unit Ghent, Ghent University Hospital, B-9000 Ghent, Belgium

Objective: Atosiban and ritodrine are frequently used tocolytics. Only a few studies investigated the hemodynamic effects of atosiban. We therefore aimed to study the central and peripheral hemodynamics of both medications. **Methods:** Twenty healthy female volunteers (19-41 yrs) were given atosiban (300 µg/min over 2 h) and placebo intravenously (IV) in a random crossover design. Eight of them also received ritodrine IV in escalating doses up to 400µg/min over 2 h. The hemodynamics were investigated at steady state using blood pressure (BP) at the brachial artery (BA), pulse wave analysis on the common carotid artery and echocardiography for cardiac output (CO). Statistical analysis was done using Friedman and Wilcoxon tests (value of significance at 0.05).

Results: Effects on atosiban/placebo on N = 20 did not differ from N = 8.

Parameters	Ritodrine (n = 8)	Atosiban (n = 8)	Placebo (n = 8)	p-value ⁵
CI (l/min/m ²)	3.15 ± 0.92**	1.91 ± 0.47	1.75 ± 0.36	0.002
SI (ml/m ²)	28.19 ± 6.34**	32.47 ± 7.07	30.40 ± 4.27	0.325
HR (bpm)	111 ± 20**	59 ± 10	57 ± 9	0.002
TPRI (mmHg.ml ⁻¹ .s)	1.53 ± 0.48**	2.69 ± 0.85	2.93 ± 0.66	0.005
MAP(mmHg)	76 ± 10**	84 ± 8	82 ± 6	<0.001
AGPP (mmHg)	-8.67 ± 12.30	2.29 ± 17.35	4.38 ± 13.67	0.368

CI (cardiac index); SI (stroke index); MAP (mean arterial pressure); TPRI (total peripheral resistance index); HR (heart rate); AGPP (augmentation index at HR 75).

⁵ Friedman-test; * significant vs. atosiban; # significant vs. placebo.

Conclusion: Ritodrine has important hemodynamical effects reflected by cardiac stimulation (increase in CI through HR increase) and a decrease in peripheral resistance (TPRI) with a trend for decreasing wave reflections (AGPP). The effect of atosiban on central and peripheral hemodynamics did not differ from placebo.

P4.02 EFFECTS OF TOCOLYTICAL MEDICATION ON BLOOD PRESSURE AND BLOOD PRESSURE AMPLIFICATION

I. G. M. Fabry², P. De Paepé¹, L. Van Bortel¹

¹Heymans Institute of Pharmacology, Ghent University, B-9000 Ghent, Belgium

²Drug Research Unit Ghent, Ghent University Hospital, B-9000 Ghent, Belgium

Objective: Atosiban (oxytocin-antagonist) and ritodrine (β-agonist) are frequently used tocolytics. Only a few studies investigated the hemodynamic effects of atosiban. We therefore aimed to study the effects on the blood pressure (BP) and BP-amplification.

Methods: Twenty healthy female volunteers (19-41 yrs) were given atosiban (300 µg/min over 2 h) and placebo intravenously (IV) in a random crossover design. Eight of them also received ritodrine IV in escalating doses up to 400µg/min over 2 h. The brachial artery (BA) blood pressures (BP) were taken by an oscillometric device (OMRON 705-IT) and the BP at the common carotid artery (CCA) and the radial artery (RA) were calculated using applanation tonometry. This was done at the steady state of the highest dose. Statistical analysis was done using Friedman and Wilcoxon test setting value of significance at 0.05.

Results: Effects on atosiban/placebo on N = 20 did not differ from N = 8.

Parameters (mmHg)	Ritodrine (n = 8)	Atosiban (n = 8)	Placebo (n = 8)	p-value ⁵
SBP _{CCA}	113 ± 13**	105 ± 10	100 ± 6	0.012
SBP _{BA}	114 ± 13**	106 ± 10	103 ± 6	0.004
SBP _{RA}	115 ± 15**	110 ± 13	110 ± 7	0.368
DBP _{BA}	55 ± 11**	69 ± 6	68 ± 5	0.008
MAP	76 ± 10**	84 ± 8	82 ± 6	<0.001

SBP (systolic BP), DBP (diastolic BP), MAP (mean arterial pressure). ⁵ Friedman-test; * significant vs. atosiban, # significant vs. placebo.

Conclusion: The data show increased SBP at the CCA and BA and lower DBP and MAP under ritodrine. The effects of atosiban did not differ from placebo. Although not statistically significant, the data suggest a nearly absent pressure amplification between CCA-RA during ritodrine administration.

P4.03 SUB-ACUTE EFFECTS OF BLOOD PRESSURE LOWERING WITH AMLODIPINE OR LISINAPRIL ON LOCAL CAROTID ARTERY HAEMODYNAMICS

B. Ariff¹, F. Glor², L. Crowe³, Y. Xu², W. Vennart⁴, D. Firmin³, S. Thom¹, A. D. Hughes¹

¹International Centre for Circulatory Health, National Heart and Lung Institute Division, Faculty of Medicine, Imperial College London, & Imperial College Healthcare NHS Trust, London, United Kingdom

²Department of Chemical Engineering, Faculty of Engineering, Imperial College London, London, United Kingdom

³Cardiovascular Magnetic Resonance Unit, Royal Brompton Hospital & National Heart and Lung Institute Division, Faculty of Medicine, Imperial College London, London, United Kingdom

⁴Pfizer Ltd, Global Research and Development, Sandwich Laboratories, Sandwich, Kent, United Kingdom

Introduction: Anti-hypertensive agents differ in their ability to slow progression of the increase in carotid artery intima-media thickness (IMT) with