## EVALUATION OF MARKERS OF ACUTE KIDNEY INJURY IN PATIENTS WITH ACUTE DECOMPENSATEDHEART FAILURE IN THE ASSESSMENT METHODS DECONGESTION

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**Objectives:** 

Our purpose was to compare and assess «early» (at day 4-6) and «late» (discharge - Dsc) effects of prolonged optimal-dosed nitrate continuous infusion plus low doses of i.v. diuretics («nitrate centered strategy» - NC) and moderate doses of i.v. diuretics plus short intermittent nitrate infusion («diuretic-centered strategy» - DC) on congestion markers (NT-pro-BNP) and renal function (e.g. Cystatin C) and tubular damage (NGAL) biomarkers in pts with acute decompensated heart failure (ADHF)



In single-blind parallel-group study pts with «wet-warm» ADHF were randomized 1:2 into 2 groups. NC group (n=31) received optimal-dosed NTG continuous infusion ≥72 hrs plus low doses of i.v. diuretic (≤80 mg pd for furosemide), while DC group (n=60) moderate doses of i.v. diuretic (41-120 mg pd for furosemide) plus short intermittent (<10hrs pd, ≤3 days) NTG. Congestion endpoints was plasma NT-pro-BNP (ELISA) at D4-6 and Dsc. Renal endpoints included acute kidney injury with AKIN criteria as well as eGRF (MDRD) and serum Cystatin C as functional injury biomarkers and plasma NGAL as tubular damage biomarker, both at D4-6 and Dsc

Gro- ups	NT-pro-BNP, M ± m pg/ml			Cystatin C, M ± m ng/ml			NGAL, M ± m ng/ml		
	D1	D4-6	Dsc	D1	D4-6	Dsc	D1	D4-6	Dsc
NC	1274± 323	853±273* *#	732±124* *#	3292±52 4	3503±608* *#	2732±461* *#	105±17, 1	118±20,4 *#	87±14,6** ##
DC	1207± 312	1086±261	858±244* *	3347±56 3	3882±642* *	3146±587* *	106±20, 8	132±22,7 *	93±15,9*



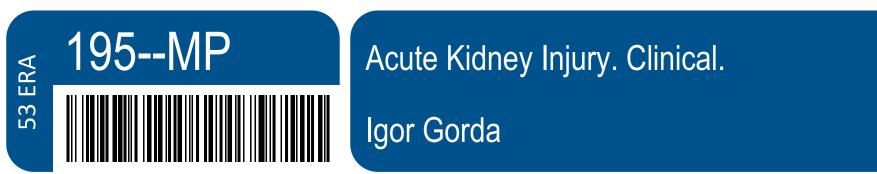
Furosemide total 1st week dose in NC group was 191±20,3mg, in DC group - 398±18,7mg, duration of NTG infusion - 3,5±0,4 vs 0,77±0,08 days (p<0,001), Dsc - in 9,4±1,3 and 11,4±1,5 days (all p<0,05). AKIN rate was correspondingly 17,3% and 22,8% (p<0,05). Other endpoints see in image

In ADHF patients «nitrate centered» strategy compared to moderate «diuretic centered» one provides more pronounced progressive decongestion assessed by NT-pro-BNP lowering. It is associated with less marked early transient worsening of renal function (Cystatin C) and tubular damage (NGAL) followed by more pronounced improvement of both from baseline in «nitrate centered» group.

References:

Conclusions:

\* - p<0,05, \*\* - p<0,01 compared to D1; # - p<0,05, ## - p<0,01 compared to Group DC



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