TITLE: IV CLONIDINE FAILS TO INHIBIT THE POSTOPERATIVE SHIVERING.

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The postoperative shivering results in tachycardia, hypertension and myocardial workload, whereas the oxygen consumption (VO_2) increases over its basal value, needing a marked increase in cardiac output.[1] IV clonidine (C) has been shown to inhibit the postoperative shivering.[2] However, only limited information is available on the hemodynamic consequences of IV C administration in patients who shiver postoperatively.

After Ethics Committee approval, 50 ASA I patients (28±3 yr) were studied after spine fusion, monitored by a Swan Ganz catheter. In the recovery room, patients were assigned randomly to 2 groups (n=25), receiving double-blindly either IV C (5 µg/kg infused on the 1st hr and followed by 0.3 $\mu g.kg^{-1}.h^{-1}$) or its placebo (P). The shivering intensity was graded every 10 min as follows: 0 = no tremor activity, 1 = minimal fasciculations on the face and neck, 2 = generalized shaking. Hemodynamic data and samples for blood gas determination were collected before C or P, 1 hr and 2 hr later. The Hb-concentration and the PCWP were respectively maintained at 11 g/dl and 4 mmHg. Statistics were ANOVA and Scheffé f-test. p value < 0.05 was considered as significant.

There were no significant intergroup differences in shivering (fig). In comparison with P, C resulted in a decrease in MAP and CI.

Dose regimen used results in efficient C plasma concentrations.[3] In our study, C failed to inhibit the postoperative shivering and resulted in decreases in cardiac output and blood pressure. However, these decreases were not associated with changes in O_2 extraction, suggesting that the O_2 delivery was not altered in our patients. Finally, although C did not inhibit the postoperative shivering, C might result in a VO_2 decrease (anesthetic effects of alpha-2 agonists ?), leading to a decrease in cardiac output and myocardial workload.

References
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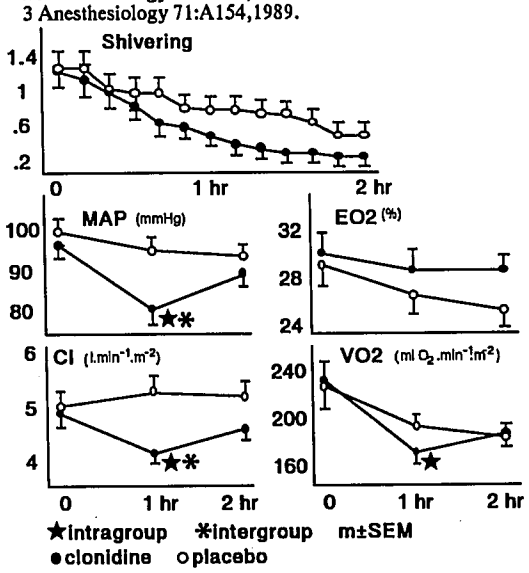

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TITLE: RENAL HEMODYNAMICS IN FUNCTIONAL RENAL FAILURE FOLLOWING INTERLEUKIN 2 IN MAN.

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Interleukin 2 (IL2) and/or alpha-Interferon (ITN) are capable of mediating the regression of metastatic tumor (1). Unfortunately severe side effects are associated with administration of IL2 and required admission of patients in surgical intensive care units. Among its major side effects is the occurence of acute renal failure (ARF), which has been demonstrated to be functional in its mechanism (2). ARF of prerenal origin is usually attributed to a decrease in renal plasma flow (RPF) and glomerular filtration rate (GFR) consecutive to hypovolemia and/or a decrease in blood pressure. But human studies on renal hemodynamic in pre-renal ARF are rare. Thus ARF during IL 2 therapy is an unique opportunity to study the kinetics of changes in renal hemodynamics in humans.

11 patients (9 males, 2 females) aged 58±7 years with metastatic renal cell carcinoma were treated by IL2 (12 M units/m^2/day) and ITN (15 M units/m^2/day) as an intravenous infusion every 8 hours for 6 consecutive days (with informed consent and approval by Ethical Committee of Univ. Lyon1). All patients received concommitant medications in attempts to minimize side effects: mainly ketoprofen and paracetamol. Ten patients had undergone nephrectomy at least 6 months prior the study. Urinary flow rate [V], GFR (inulin clearance), renal plasma flow [RPF] (PAH clearance), plasma creatinine [Pcr], fractional Na and K excretion [FE Na and FE K] and microalbuminuria [µ Alb] were studied before and one day after the onset of therapy (3 injections of IL2 and ITN). Blood pressure (BP) and heart rate (HR) were continuously monitored with an oscillometric method. Main results were as follows: (Wilcoxon paired test, NS = p> 0.05) (mean ± SD).

	Before	During IL 2 therapy	p
mean BP (mm Hg)	98.1±12.4	79.7±14.4	0.005
heart rate (pulses/min)	69.7±11.4	89.5±20.5	0.02
GFR (ml/min/1.73m2)	76.0±15.2	52.7±19.3	0.003
RPF (ml/min/1.73m2)	366.0±62.9	400.3±108.8	NS
Filtration Fraction	0.209±0.34	0.131±0.034	0.003
PCr (µmol/l)	120.4±19.2	156.6±40.4	0.007
V (ml/min)	3.00±0.89	1.32±0.50	0.004
µ Alb (mg % mg creatinine)	7.6±16.5	18.1±22.7	0.005
EF Na (%)	1.37±0.48	0.48±0.23	0.02
EF K (%)	12.41±2.94	28.03±13.49	0.02

Although ARF was at the initial phase, the observed decrease in GFR, V together with the fall in EF Na and the increase in EF K are the hallmark of a functional ARF. In this type of functional ARF, there was no decrease in RPF despite the fall in mean BP, thus there was a decline in renal vascular resistances (RVR). The solitary drop in GFR may be interpreted as an alteration of glomerular membrane permeability (increase in µ Alb) and/or an impairment of glomerular hemodynamics (decrease in efferent arterial resistance)

In patients without renal artery stenosis and treatment by converting enzyme inhibitor, our study is the first report of a functional type of ARF in humans with preservation of RPF and a isolated decrease in GFR which provides a new insight into the pathogenesis of early phase of pre-renal ARF.

1- N Eng J Med. 316: 889-97, 1987;
2-Ann Int Med.106: 817-22, 1987.