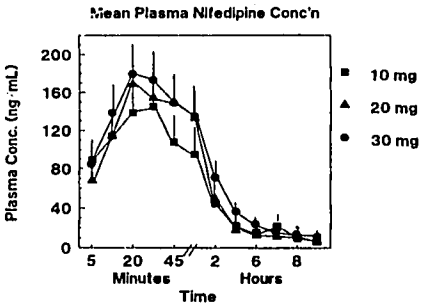
TITLE: HEMODYNAMIC EFFECTS AND DISPOSITION OF INTRANASAL NIFEDIPINE FOR POST-CABG HYPERTENSION

Authors: J.F. Boylan MB, S.A. Qureshi PhD, S. Laganière PhD, I. McGilveray PhD, P. Hassard BSc, G. O'Leary MB, S.J. Teasdale MD.
Affiliation: Department of Anaesthesia, Toronto General Hospital, Toronto, Canada, and Biopharmaceutics Division, Health and Welfare Canada, Ottawa, Canada.

Introduction: The coronary and peripheral vasodilator effects of nifedipine (NIF) may be advantageous in the therapy of acute hypertension (HT) after coronary artery bypass graft (CABG) surgery[1]. Intranasal (IN) NIF is more effective than sublingual NIF in anesthetized intubated patients[2]. We studied the hemodynamic effects and the disposition of IN NIF at three dosage levels.
Patients and Methods: 23 patients with post-CABG mean arterial pressure (MAP) $\geq$ 95mmHg were randomized to receive 10, 20 or 30mg NIF intranasally. The contents of one to three 10mg capsules were aspirated into a one ml 1:1 saline/alcohol mixture, and instilled into one nostril from a foil covered syringe. Hemodynamics were recorded and arterial plasma NIF levels (C_{NIF}) obtained over 12 hours. Hemodynamics and dose-concentration relationships were analyzed using repeated measures analysis of variance and least-squares regression.
Results: MAP $\leq$95 mmHg was achieved by 20 minutes in all patients but one. Early MAP decreases were similar in each group, but additional vasodilators were required later in 5 patients given 10 or 20mg, though not in the 30mg group. Pressors were required to restore MAP >80mmHg in 4 patients given 20 or 30mg, but in none of those given 10mg NIF. Although dosage did not correlate with C_{NIF} (Figure), blood levels attained correlated with MAP during the first 20 minutes.
Discussion: 10mg IN NIF provides safe and rapid short term control of post-CABG HT, although HT may recur. Higher initial doses do not reliably produce higher C_{NIF}s due to variable absorption, do not enhance short term control, and occasionally cause hypotension. The use of repeat 10mg IN NIF doses titrated against effect merits further study.



References:
1. Ann Thorac Surg 49: 61-68, 1990
2. Anesthesiology 59: A18, 1983

A293

TITLE: CLINICAL AND IMMUNE RESPONSES IN AIDS PATIENTS RECEIVING LCT-BASED PARENTERAL NUTRITION (PN).

AUTHORS: P Singer MD, A Rubinstein MD, MM Rothkopf MD, O Kirvelä MD, V Kvetan MD, J Askanazi MD
AFFILIATION: Dept Critical Care, Rambam Med Ctr, Haifa, Israel, Montefiore Med Ctr, Bronx NY 10467, VA Med Ctr, NJ 17019, and Dept of Immunology, A Einstein Coll Med, Bronx, NY.

The effect of long chain triglyceride (LCT) infusions on the immune system is a subject of controversy. Since they are often included in PN regimens administered to patients with AIDS, severe malnutrition and impaired immune function, we reviewed the clinical and immune effects of lipid based PN in 8 such patients.

Eight patients with AIDS, mean weight loss of 18.4% and diarrhea, who were receiving AZT (200 to 800 mg/day) were given home PN daily as Intralipid 10% (1000 ml), amino acid solution (114g), dextrose (200 g), with electrolytes, vitamins and trace elements. Immune function, tested before, after 2 hours and after 2 months of infusion, included lymphocyte proliferation ability for mitogens (PHA, ConA and PWM), lymphocyte subsets (CD4, CD3, CD8, CD2, CD20, CD9 and CD14), and p24 serum levels.

Body weight increased by 5.0 $\pm$ 1.9 kg ($p<0.01$). However, albumin levels remained around 3.3 g/dl. Enumeration of monocellular cell subpopulations did not show any difference when compared to preinfusion. CD4 cells (4.7 $\pm$ 4.2% before infusion) remained very low . Lymphocyte proliferation ability was expressed in comparison to the background and is summarized (mean $\pm$ SD). Levels of p24 were below 10 pg/ml before infusion and did not increase despite the evolution of the disease.

	PREINF	AFTER 2 HOURS	2 MONTHS
PHA	76 $\pm$ 111	85 $\pm$ 102	144 $\pm$ 154
CnA	38 $\pm$ 35	70 $\pm$ 77	56 $\pm$ 53
PWM	66 $\pm$ 80	52 $\pm$ 39	58 $\pm$ 53

We conclude that LCT based PN nutrition can be administered safely to AIDS patients, accompanied by weight gain. Immune function was not impaired; on the contrary, there was a suggestive increase in mitogen response and a stabilization of p24 levels.