Hyperleptinemia is associated with impaired pulmonary host defense.

Niki D.J. Ubags[1,2], Renee D. Stapleton[2], Juanita H.J. Vernooy[1], Elianne Burg[2], Jenna Bement[2], Catherine M. Hayes[2], Lennart Zabeau[3], Jan Tavernier[3], Matthew J. Wargo[4], Benjamin Littenberg[2], Matthew E. Poynter[2], Polly E. Parsons[2], Anne E. Dixon[2], Emiel F.M. Wouters[1], Benjamin T. Suratt[2].

[1]*Department of Respiratory Medicine, Maastricht University Medical Centre+, NUTRIM School of Nutrition and Translational Research in Metabolism, Maastricht, The Netherlands;* [2]*Department of Medicine, University of Vermont College of Medicine, Burlington, VT, USA;* [3]*Flanders Institute for Biotechnology (VIB), Department of Medical Protein Research, Ghent University, Ghent, Belgium;* [4]*Department of Microbiology & Molecular Genetics, University of Vermont College of Medicine, Burlington, VT, USA.*

Supplemental Data

Address correspondence to:
Benjamin T. Suratt, MD
University of Vermont College of Medicine
89 Beaumont Avenue, Given E407A
Burlington, VT 05405
Office: (802) 656-8979
Email: benjamin.suratt@uvm.edu

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Supplemental material

Table S1 The annual risk for urinary tract infection is significantly correlated with serum leptin level, gender and diabetic status. 6,415 subjects from NHANES III. $P \leq 0.05$ is considered significant.

Urinary tract infection (n=520)	*Odds Ratio*	*95% CI*	*P*
Univariate Analysis			
Leptin (ng/ml)	1.028	[1.017,1.039]	<0.0001 ***
Age (years)	0.994	[0.984,1.005]	0.26
Gender	0.178	[0.136,0.232]	<0.0001 ***
White Race	0.863	[0.642,1.161]	0.32
Education (0-17 years of school)	0.933	[0.900,0.964]	0.0001 ***
Income<$20, 000	1.370	[1.063,1.764]	0.016 *
Married (or living as married)	1.113	[0.860,1.440]	0.41
Body Mass Index (kg/m^2)	0.996	[0.963,1.030]	0.81
Current Smoker	1.111	[0.804,1.535]	0.52
Diabetes Mellitus	1.569	[1.019,2.415]	0.041
Glycated Hgb A1C (%)	0.961	[0.771,1.199]	0.72
Creatinine clearance (ml/min/1.74m^2)	1.004	[0.995,1.012]	0.29
Used non-steroidal anti-inflammatory in last month	1.007	[0.798,1.271]	0.95
Multivariate Analysis			
Leptin (ng/ml)	1.003	[0.991,1.015]	0.63
Male	0.184	[0.135,0.252]	<0.0001 ***
Education (0-17 years of school)	0.941	[0.906,0.977]	0.0023 **
Income<$20, 000	1.045	[0.795,1.374]	0.75
Diabetes Mellitus	1.467	[0.943,2.284]	0.088

Figure S1

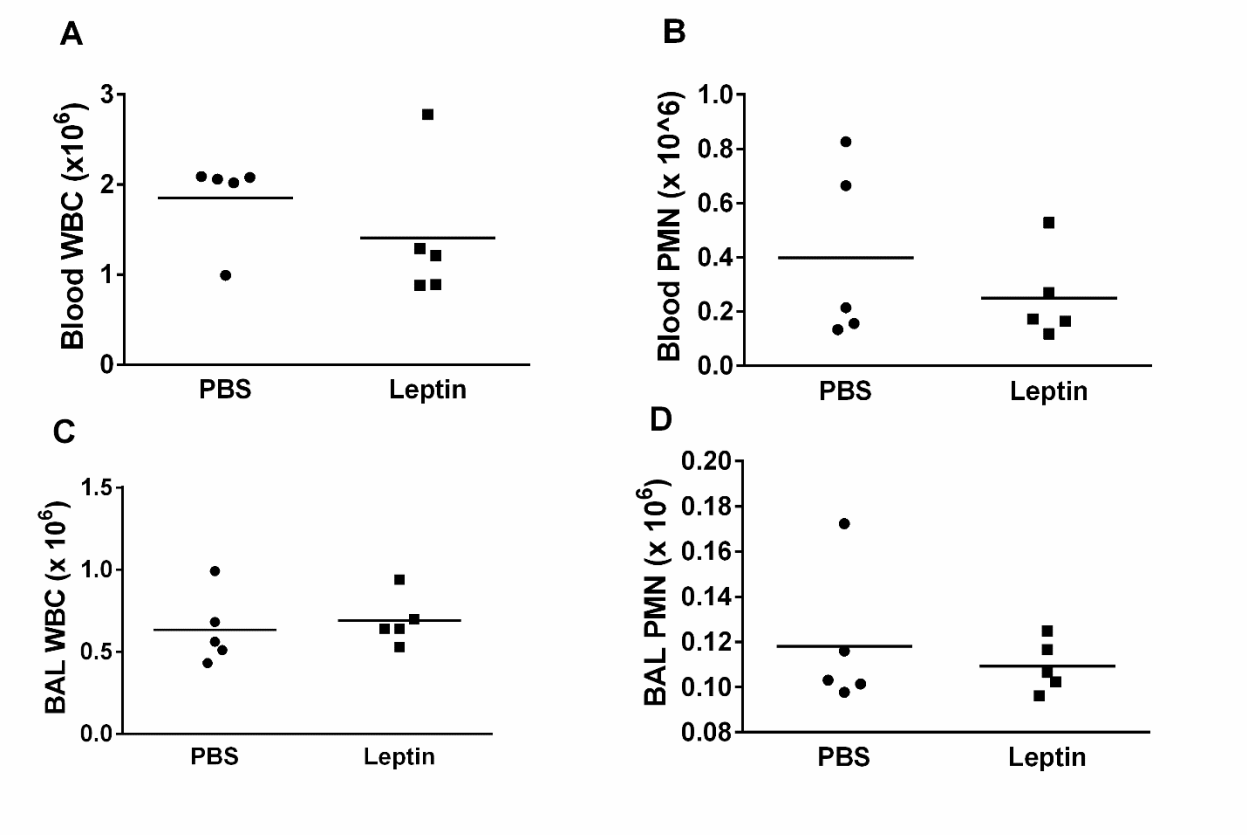

Figure S1. Total and neutrophil cell counts in blood and BAL remain unchanged in hyperleptinemic mice. Baseline blood and BAL total cell counts (**A, C**) and neutrophil counts (**B, D**) were determined after 14 days of pbs or leptin (2 µg) i.p. injections. n=5 per group.

Figure S2

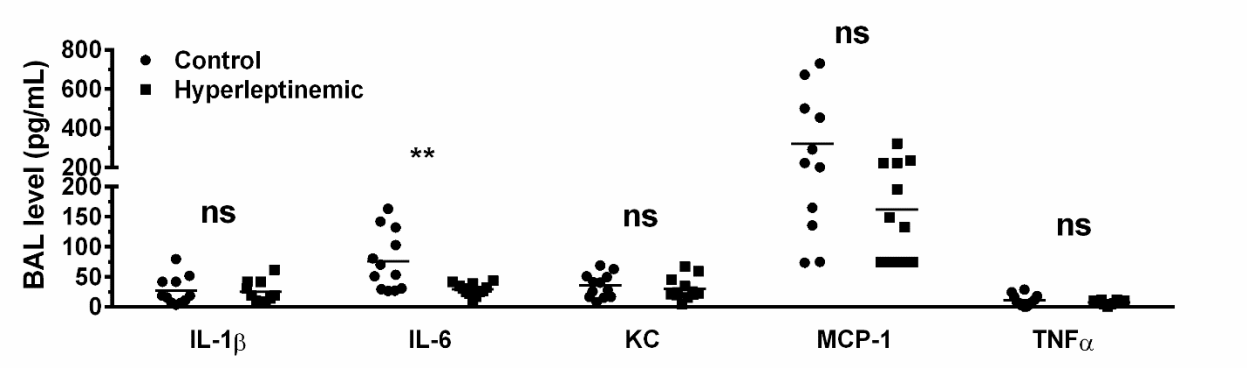

Figure S2. BAL cytokines tend to be lower in hyperleptinemic mice following LPS exposure. BAL cytokine levels were determined at 24h after LPS exposure in mice that received PBS or leptin (2 µg) i.p. injections for 14 days. n=11 per group. ** $P \leq 0.01$ as determined by an unpaired Student's *t*-test (two-tailed).

Figure S3

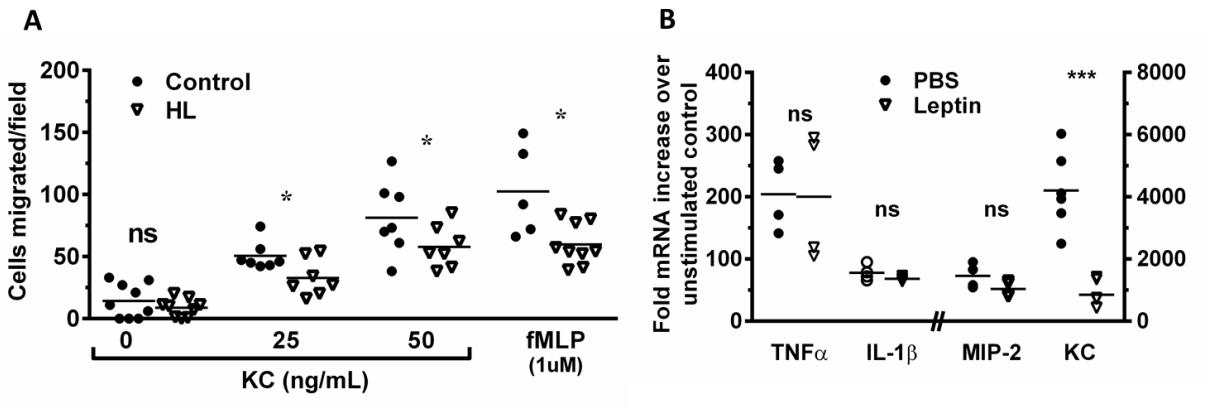

Figure S3. Neutrophil function is impaired in hyperleptinemic mice. (**A**) Chemotaxis of mature bone marrow derived neutrophils isolated from lean hyperleptinemic mice was compared with control mice using a modified Boyden chamber with KC (25 ng/ml or 50 ng/ml) or fMLP (1μM). (**B**) Furthermore, gene expression levels of TNFα, IL-1β, MIP-2 and KC were measured by qPCR 4h after *in vitro* LPS (100 ng/ml) stimulation of these bone marrow derived neutrophils and compared with control mice. Three separate experiments, using different mice for each experiment, were performed on isolated neutrophils from this model and its control. Data are represented as mean. * $P \leq 0.05$, ** $P \leq 0.01$, ***$P \leq 0.001$ as determined by an unpaired Student's *t*-test (two-tailed) compared to control. ns = not significant.