Errata

Boden G: Role of fatty acids in the pathogenesis of insulin resistance and NIDDM. *Diabetes* 46:3–10, 1997

The volume number and year shown in the abstract of the above article were incorrect. The abstract with the correct reference appears below.

Evidence is reviewed that free fatty acids (FFAs) are one important link between obesity and insulin resistance and NIDDM. First, plasma FFA levels are elevated in most obese subjects. Second, physiological elevations in plasma FFA concentrations inhibit insulin stimulated peripheral glucose uptake in a dose-dependent manner in normal controls and in patients with NIDDM. Two possible mechanisms are identified: *1*) a fat-related inhibition of glucose transport or phosphorylation, which appears after 3–4 h of fat infusion, and *2*) a decrease in muscle glycogen synthase activity, which appears after 4–6 h of fat infusion. Third, FFAs stimulate insulin secretion in nondiabetic individuals. Some of this insulin is transmitted in the peripheral circulation and is able to compensate for FFA-mediated peripheral insulin resistance. FFA-mediated portal hyperinsulinemia counteracts the stimulation of FFAs on hepatic glucose production (HGP) and thus prevents hepatic glucose overproduction. We speculate that, in obese individuals who are genetically predisposed to develop NIDDM, FFAs will eventually fail to promote insulin secretion. The stimulatory effect of FFAs on HGP would then become unchecked, resulting in hyperglycemia. Hence, continuously elevated levels of plasma FFAs may play a key role in the pathogenesis of NIDDM in predisposed individuals by impairing peripheral glucose utilization and by promoting hepatic glucose overproduction. *Diabetes* 46:3–10, 1997

Massillon D, Barzilai N, Hawkins M, Prus-Wertheimer D, Rossetti L: Induction of hepatic glucose-6-phosphatase gene expression by lipid infusion. *Diabetes* 46:153–157, 1997

A production error caused Fig. 1 on page 154 of the above article to be cropped incorrectly. The correct figure appears below.

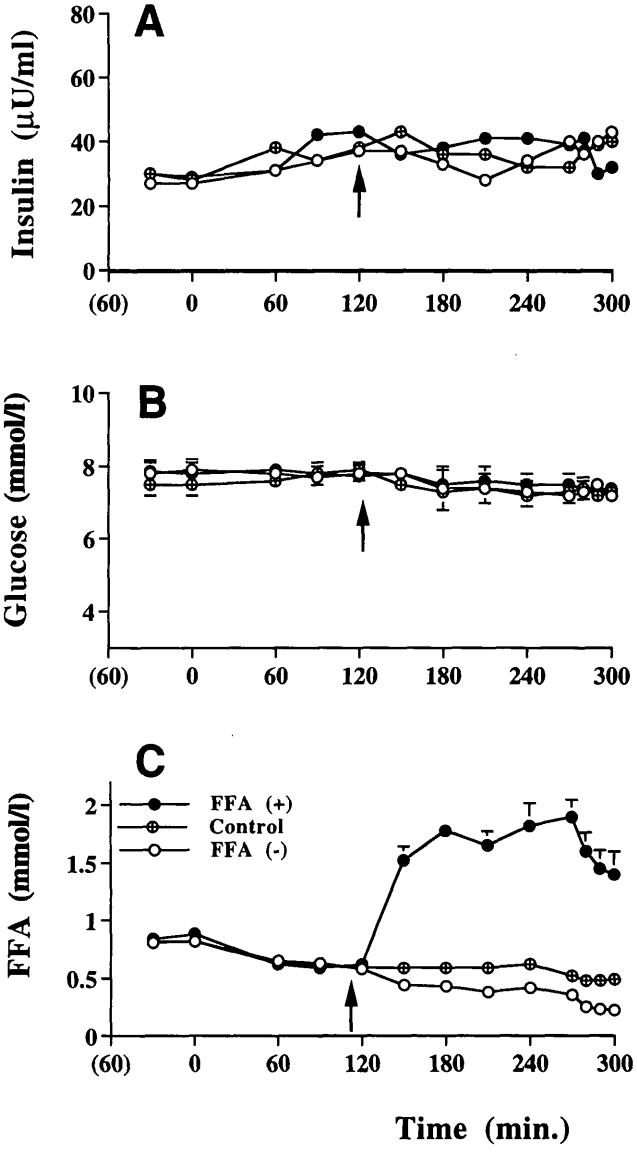

FIG. 1. Time course of the plasma insulin (*A*), glucose (*B*), and FFA (*C*) concentrations during the pancreatic clamp studies. To control the pancreatic hormone concentrations during the in vivo studies, somatostatin and insulin were infused during 5 h of saline (control studies) or 2 h of saline, followed by either 3 h of nicotinic acid infusion alone [FFA (–)] or nicotinic acid with lipid/heparin infusion [FFA (+)]. Insulin was infused at the rate of 1.0 mU · kg^{-1} · min^{-1} to generate plasma hormone concentrations mildly increased above basal levels.

TABLE 1—Système International (SI) units for plasma, serum, or blood concentrations

Measurement	Conventional unit	Conversion factor	SI unit	Significant digits	Suggested minimum increments
Acetoacetate	mg/dl	97.95	μmol/l	XXO	10 μmol/l
Acetone	mg/dl	172.2	μmol/l	XXO	10 μmol/l
Adrenocorticotropin	pg/ml	0.2202	pmol/l	XX	1 pmol/l
Aldosterone	ng/dl	27.74	pmol/l	XXO	10 pmol/l
Amino acids					
Alanine	mg/dl	112.2	μmol/l	XXX	5 μmol/l
α-Aminobutyric acid	mg/dl	96.97	μmol/l	XXX	5 μmol/l
Arginine	mg/dl	57.40	μmol/l	XXX	5 μmol/l
Asparagine	mg/dl	75.69	μmol/l	XXX	5 μmol/l
Aspartic acid	mg/dl	75.13	μmol/l		5 μmol/l
Citrulline	mg/dl	57.08	μmol/l	XXX	5 μmol/l
Cystine	mg/dl	41.61	μmol/l	XXX	5 μmol/l
Glutamic acid	mg/dl	67.97	μmol/l	XXX	5 μmol/l
Glutamine	mg/dl	68.42	μmol/l	XXX	5 μmol/l
Glycine	mg/dl	133.2	μmol/l	XXX	5 μmol/l
Histidine	mg/dl	64.45	μmol/l	XXX	5 μmol/l
Hydroxyproline	mg/dl	76.26	μmol/l	XXX	5 μmol/l
Isoleucine	mg/dl	76.24	μmol/l	XXX	5 μmol/l
Leucine	mg/dl	76.24	μmol/l	XXX	5 μmol/l
Lysine	mg/dl	68.40	μmol/l	XXX	5 μmol/l
Methionine	mg/dl	67.02	μmol/l	XXX	5 μmol/l
Ornithine	mg/dl	75.67	μmol/l	XXX	5 μmol/l
Phenylalanine	mg/dl	60.54	μmol/l	XXX	5 μmol/l
Proline	mg/dl	86.86	μmol/l	XXX	5 μmol/l
Serine	mg/dl	95.16	μmol/l	XXX	5 μmol/l
Taurine	mg/dl	79.91	μmol/l	XXX	5 μmol/l
Threonine	mg/dl	83.95	μmol/l	XXX	5 μmol/l
Tryptophan	mg/dl	48.97	μmol/l	XXX	5 μmol/l
Tyrosine	mg/dl	55.19	μmol/l	XXX	5 μmol/l
Valine	mg/dl	85.36	μmol/l	XXX	5 μmol/l
Amino acid nitrogen	mg/dl	0.7139	mmol/l	X.X	0.1 mmol/l
Amylase	U/l	1.0	U/l	XXO	10 U/l
Androstenedione	μg/l	3.492	nmol/l	XX.X	0.5 nmol/l
Calcitonin	pg/ml	1.0	ng/l	XXO	10 ng/l
Calcium	mg/dl	0.2495	mmol/l	X.XX	0.02 mmol/l
Calcium ion	meq/l	0.500	mmol/l	X.XX	0.01 mmol/l
Carbon dioxide content	meq/l	1.00	mmol/l	XX	1 mmol/l
Cholesterol	mg/dl	0.02586	mmol/l	X.XX	0.05 mmol/l
Citrate (as citric acid)	mg/dl	52.05	μmol/l	XXX	5 μmol/l
Cortisol	μg/dl	27.59	nmol/l	XXO	10 nmol/l
C-peptide	ng/ml	0.331	nmol/l	XXX	0.01 nmol/l
Creatinine	mg/dl	88.40	μmol/l	XXO	10 μmol/l
Creatinine clearance	ml/min	0.01667	ml/s	X.XX	0.02 ml/s
cyclic AMP	μg/l	3.038	nmol/l	XXX	1 nmol/l
cyclic GMP	μg/l	2.897	nmol/l	XX.X	0.1 nmol/l
Dehydroepiandrosterone	μg/l	3.467	nmol/l	XX.X	0.2 nmol/l
Dehydroepiandrosterone sulfate	ng/ml	0.002714	μmol/l	XX.X	0.1 μmol/l
11-Deoxycortisol	μg/dl	28.86	nmol/l	XXO	10 nmol/l
Epinephrine	pg/ml	5.458	pmol/l	XXO	10 pmol/l
Estradiol	pg/ml	3.671	pmol/l	XXX	1 pmol/l
Estrone	pg/ml	3.699	pmol/l	XXX	5 pmol/l
Fatty acids, nonesterified	mg/dl	0.01	g/l	X.XX	0.01 g/l
Follicle-stimulating hormone	mIU/ml	1.00	IU/l	XX	1 IU/l
Fructose	mg/dl	0.05551	mmol/l	X.XX	0.1 mmol/l
Galactose	mg/dl	0.05551	mmol/l	X.XX	0.1 mmol/l
Gases					
Po_2	mmHg	0.1333	kPa	XX.X	0.1 kPa
Pco_2	mmHg	0.1333	kPa	X.X	0.1 kPa
Gastrin	pg/ml	1.0	ng/l	XXO	10 ng/l
Gastroinhibitory polypeptide	pg/ml	0.201	pmol/l	XXO	10 pmol/l
Glucagon	pg/ml	1.0	ng/l	XXO	10 ng/l
Glucose	mg/dl	0.05551	mmol/l	XX.X	0.1 mmol/l
Glycerol, free	mg/dl	0.1086	mmol/l	X.XX	0.01 mmol/l
Growth hormone	ng/ml	1.0	μg/l	XX.X	0.5 μg/l
β-Hydroxybutyrate (as β-hydroxybutyric acid).	mg/dl	96.05	μmol/l	XXO	10 μmol/l
17α-Hydroxyprogesterone	μg/l	3.026	nmol/l	XX.X	0.5 nmol/l
Insulin	μU/ml	6.0	pmol/l	XXX	5 pmol/l
Lactate (as lactic acid)	mEq/l	1.0	mmol/l	X.X	0.1 mmol/l
Lipase	U/l	1.0	U/l	XXX	1 U/l
Lipoproteins				X.XX	
LDL (as cholesterol)	mg/dl	0.02586	mmol/l	X.XX	0.05 mmol/l
HDL (as cholesterol)	mg/dl	0.02586	mmol/l	XXX	0.05 mmol/l
Luteinizing hormone	mIU/ml	1.0	IU/l	X.XX	1 IU/l
Norepinephrine	pg/ml	0.005911	nmol/l	XXX	0.01 nmol/l
Osmolality	mOsm/kg	1.0	mmol/kg	XX	1 mmol/kg
Pancreatic polypeptide	pg/ml	0.239	pmol/l	X.XX	1 pmol/l
Phosphate (as inorganic phosphorus)	mg/dl	0.3229	mmol/l	X.XX	0.05 mmol/l
Phospholipid phosphorus	mg/dl	0.3229	mmol/l	XX	0.05 mmol/l
Progesterone	ng/ml	3.180	nmol/l	XX	2 nmol/l
Prolactin	ng/ml	1.0	μg/l	XX	1 μg/l
Protein, total	g/dl	10.0	g/l	XX	1 g/l
Pyruvate (as pyruvic acid)	mg/dl	113.6	μmol/l	XXX	1 μmol/l
Renin	$ng \cdot ml^{-1} \cdot h^{-1}$	0.2778	$ng \cdot L^{-1} \cdot s^{-1}$	X.XX	0.02 $ng \cdot L^{-1} \cdot s^{-1}$
Serotonin	μg/dl	0.05675	μmol/l	X.XX	0.05 μmol/l
Somatostatin	pg/ml	0.611	pmol/l	XX	1 pmol/l
Testosterone	ng/ml	3.467	nmol/l	XX.X	0.5 nmol/l
Thyroid-stimulating hormone	μU/dl	1.0	mU/l	X.X	0.1 mU/l
Thyroxine	μg/dl	12.87	nmol/l	XXX	1 nmol/l
Triiodothyronine	ng/dl	0.01536	nmol/l	X.X	0.1 nmol/l
Urea nitrogen	mg/dl	0.3570	mmol/l	X.X	0.5 nmol/l
Vasoactive intestinal polypeptide	pg/ml	0.331	pmol/l	X.X	1 pmol/l

Largely from Young DS: *Ann Intern Med* 106:114–129, 1987. For insulin see Vølund A, Brange J, Drejer K, Jensen I, Markussen J, Ribel V, Sørensen AR, Schlichtkrull J: In vitro and in vivo potency of insulin analogues designed for clinical use. *Diabet Med* 8:839–847, 1991.