

D3 (IU/d)

D () .

D
Boquist

.()

D
D

.() D

(IU/d) D

(D) D

.()

D D
()
D

()

()
D .()

mg/dl

mg/dl D

)D

()

D

.()

D

C E

(

D

D

C E

)

(

)

(

(

) BMI

D

D

seca

seca

(

)

/

(BMI)

(m²)

(kg)

cc

Food Processor

° C

D

° C

D

° C

(Pars Azmoon kit)

Food Processor

ELISA (IRMA)

(

) RIA

C

D

(BioSource Europe S.A)

Food Processor

(RIA)

D3

D

(Biosource Europes.A,Ò)

Krause's Food, Nutrition and Diet Therapy

D

(2004)

D

ng/ml

25-OH-D

(

D

ng/ml

SPSS

ng/ml

25-OH-D

()

D

XP

SPSS (Version 11.05)

/ / mg/d

/ mg/dl

.()

/ ± /

BMI

t
t

)

(

(ANOVA for repeated measurement)

McNemar

D

(n =)

P-Value	D		
	(n =)	(n =)	
/	/ ± /	/ ± /	()
/	/ ± /	/ ± /	()
/	/ ± /	/ ± /	(kg)
/	/ ± /	/ ± /	(Cm)
/	/ ± /	/ ± /	BMI (kg/ m ²)
/	()	(/)	
/	()	(/)	
/	(/)	(/)	()
/	(/)	(/)	
/	(/)	(/)	
/	()	(/)	
/	()	(/)	
/	(/)	(/)	
/	(/)	(/)	
/	()	()	
/	()	()	
/	(/)	(/)	
/	(/)	(/)	

D

(

()

D

D,C,E

()

(P< /)

t :† t

(n =)

گروه دارونما (n = ۲۷)			گروه مکمل ویتامین D (n = ۳۰)			
(±)			(±)			
‡			‡			
/ ± /	/ ± /	۹/۴۵ ± ۰/۲۱	/ ± /	/ ± /	۹/۴۶ ± ۰/۲۵	(mg/dl)
/ ± /	/ ± / *	۱۴/۲۴ ± ۱۱/۷۷	/ ± / ^c	/ ± / **	/ ± / ^a	25-OH-D (ng/ml)
/ ± /	/ ± /	۱۵۹/۴۳ ± ۵۷/۸۱	/ ± /	/ ± /	۱۸۷/۹۷ ± ۶۱/۲۴ ^b	(mg/dl)
/ ± /	/ ± /	۲۲/۴۳ ± ۴۱/۹۵	/ ± /	/ ± /	۲۲/۴۳ ± ۴۱/۹۵	(μU/ml)
/ ± /	/ ± /	۲/۶۹ ± ۱/۰	/ ± /	/ ± / *	۲/۴۷ ± ۰/۸۸	(ng/ml) C
/ ± /	/ ± /	۰/۳۱ ± ۰/۰۳۲	/ ± / ^d	/ ± / **	۰/۳۰ ± ۰/۰۳۴	QUICKI

D

25-OH-D

25-OH-D
QUICKI

/ P *
/ P **
/ P^a
/ P^b
/ P^c
/ P^d

C

D

QUICKI

C

()

D

25-OH-D

(n=)

D			
D			
D			
()	()	(/)	(/)
()	()	(/)	(/)
/ *	/	† (P)	

(% /)

25-OH-D

D

D

D

McNemar

D

/ P *
†

()

(Clamp IR)

QUICKI

QUICKI

()

Clamp IR QUICKI

()

(P < × r = /)

() (P < / r = /)

QUICKI

QUICKI

(P < / r = /)

(P < / r = /)

QUICKI

()

)

(

()

D3

25-OH-D

D

% /

% /

D

D

D

()

D

(/ ± / ng/ml)

D

%

25-OH-D

Quantitative Insulin Sensitivity Check Index

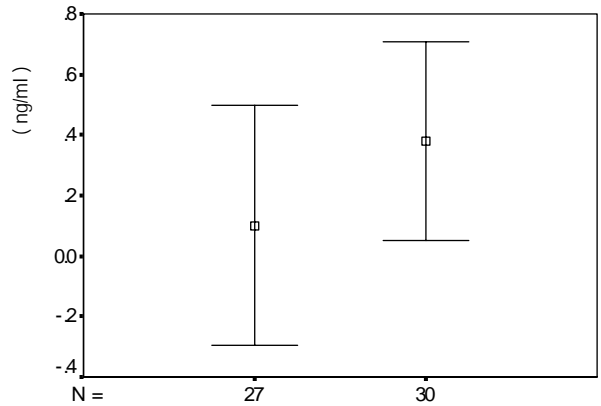
25-OH-D

()

(QUICKI)

(gold standard)

Euglycemic Hyperinsulinemic Clamp Study



C

/

(IDDM)

() (D) VDR 25-OH-D
 .()
 25-OH-D
 D .()
 (CaBP) D Calbindin C_{K28} 1,25-OH-D
 .()
 D 1,25-OH-D /
 D

25-OH-D D 25-OH-D -
 1,25-OH-D .()
 25-OH-D
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 / ± / ng/ml / ± / ng/ml .() 1,25-OH-D
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 25-OH-D .
 (%) / ± / ng/ml D
 D

) 25-OH-D D
 (IGT
 D .()
 () 1,25-OH-D D
 25-OH-D
 D

() Orwoll

D

D

()

()

()

1,25-OH-D

D

1,25-OH-D

()

D

IU

() Roghuramula

()

D

OGTT

Boucher

Boucher

D

()

() Borissova

"specific insulin"

IVGTT OGTT

D

() Roghuramula

OGTT

() Borissova

IVGTT

D

C

()

IU

C

()

C

() Boucher

D

IU

IGT

() Orwoll

()

(IVGTT)

% /

C

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%

D

D

D

D

C

QUICKI

D

D

D

()

%

D

D

D

D

D

(

IU/d)

D

%

C

D

D

D

ng/ml

25-OH-D

%

D

D

(P= /)

%

D

D

(/ ± / ng/ml)

D

()

%

D

D

(Borissova)

D

()

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