

# 1

(3) (2) (2) (1)

(3) (3)

27 10

IGF-1) 1

6

. 20-  
IGF-1

IGF-1

.SAS

(0.05 > p)

IGF-1

IGF-1

4.11 ± 188

/ 0.16 ±13.27 / 6.43 ±222 /

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(1)

(2)

65211

(3)

## Peripheral Levels of Glucose, IGF-1 and Leptin in Prepubertal Shami Dromedary Heifers

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M. Al-Daker<sup>(3)</sup>; A. Al-Assad<sup>(3)</sup> and A. Nooh<sup>(3)</sup>

### ABSTRACT

Ten growing Shami female dromedaries, 27 weeks old were used to determine peripheral levels of glucose, IGF-1 and leptin in prepubertal Shami dromedary heifers. Body weight(BW) was measured and blood samples were collected weekly from the jugular vein for 6 months in EDTA-containing tubes. Serum was separated and stored at  $-20^{\circ}\text{C}$  for later analysis. Glucose was determined using a colorimetric glucose oxidase kit. Serum concentrations of IGF-1 and leptin were assayed using some modifications of bovine radio-immunoassay procedures. Animals were grouped according to their birth date, body weight or average daily gain and variations in the plasma concentrations of parameters as well as to the effect of studied factors were tested and assessed by analysis of variance using the general linear model, repeated measurements procedures of SAS. It is reported for the first time information on peripheral levels of glucose, IGF-1 and leptin hormones in sexually immature dromedary heifers and results indicated that BW had a significant effect ( $p<0.05$ ) on IGF-1 levels. Overall means for glucose, IGF-1 and leptin, were  $188 \pm 4.11$  mg/dl,  $222 \pm 6.43$  ng/ml, and  $13.27 \pm 0.16$  ng/ml, respectively and it was found that those concentrations were greater than values in sexually immature females in the other domestic animals. Such information might be helpful for specialists to search for the role of these hormones in the reproductive function and develop breeding programs to reduce the period of the onset of puberty and increase the reproductive performance of dromedary camels.

**Key words:** Shami dromedary, Glucose, Hormone concentrations, Body weight, Birth date, Prepubertal heifers.

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Abdunazarov) 10-8 (2005 Tibary)  
(2009 Salhab) 26 (1971)  
(1993 El-Eknaah Daffalla) 3-2  
(1966 Matharu) 8-7  
%70  
(1990 Moslah)  
(1953) Kennedy  
aVelazquez) IGF-1 :  
(2002 Moschos) (2008  
(1978 Coleman)  
(2001 Chilliard) (1995 Maffei)  
(2000 Blache)  
(1997 Granowitz)  
(1996 Considine)  
(1996 Mecer)  
(1997 Karlsson)  
Keisler (1996 Barach) (1999)  
(2000 Delavaud)

(2004) (2005 Chilliard)  
Delavaud)  
IGF-1  
(1996 Lamberson)  
(1993 Crawford)  
(1983 Copeland) (1991 Jones)  
(1999) Schams . IGFs

(GnRH)

(1979 Chandrasena)  
%70-40  
( )

IGF-1

IGF-1

2009 ( ) 27 10  
( )

( 10) 6  
°20- EDTA  
25 2800

OXidase  
(Thermo Electron Corporation, Louisville, CO)  
(2006) Kolath

Scharf (RIA) IGF-1  
 2003 Kieborz-Loos 2007 Brandt 2010  
 %10 CV %98 R<sup>2</sup>  
 (3 = G1) (BD)  
 (3 = G2)  
 (4 = G3)  
 (BW)  
 G1 210  
 (6 = G2) 210 (4 =  
 (ADG)  
 (4 = G1) 450 ADG  
 (6 = G2) 450  
 IGF- 1  
 SAS  
 (1 )  
 IGF-1  
 (0.05 > p)  
 (2 ) G1 IGF-1 G2  
 (1 )  
 / 4.1 ± 188  
 4.58 ±180.32 BD  
 3.24±181.63 BW / 4.68 ±194.28  
 / 14.96± 189.47 17.16 ±182.73 / 4.57±197.45  
 ADG

.(2 )

.(1 )

**IGF-1**

**(1)**

<b>P</b>				
0.28	1632.081	18		( )
0.99	1763.924	18	IGF-1	
0.11	3.33	18		
0.71	3116.849	2		
0.57	35382.854	2	IGF-1	
0.18	17.62	2		
0.23	11551.107	1		( )
0.04	200400.769	1	IGF-1	
0.63	2.66	1		
0.25	8072.782	1		( )
0.58	119193.09	1	IGF-1	
0.20	12.533	1		

: (IGF-1) **1**  
IGF-1 (2 )

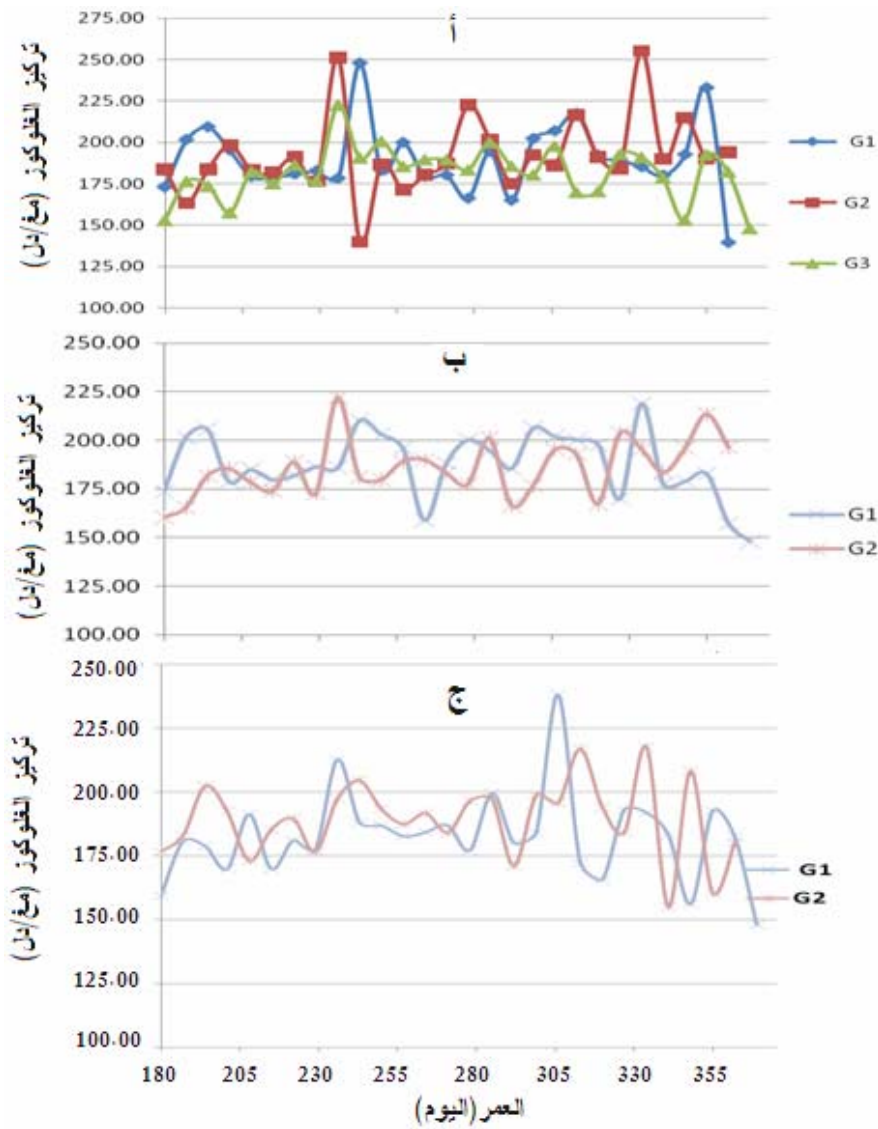
G2  
( / 8.49 ±182.23 4.04 ± 248.52 ) G1

.(2 )

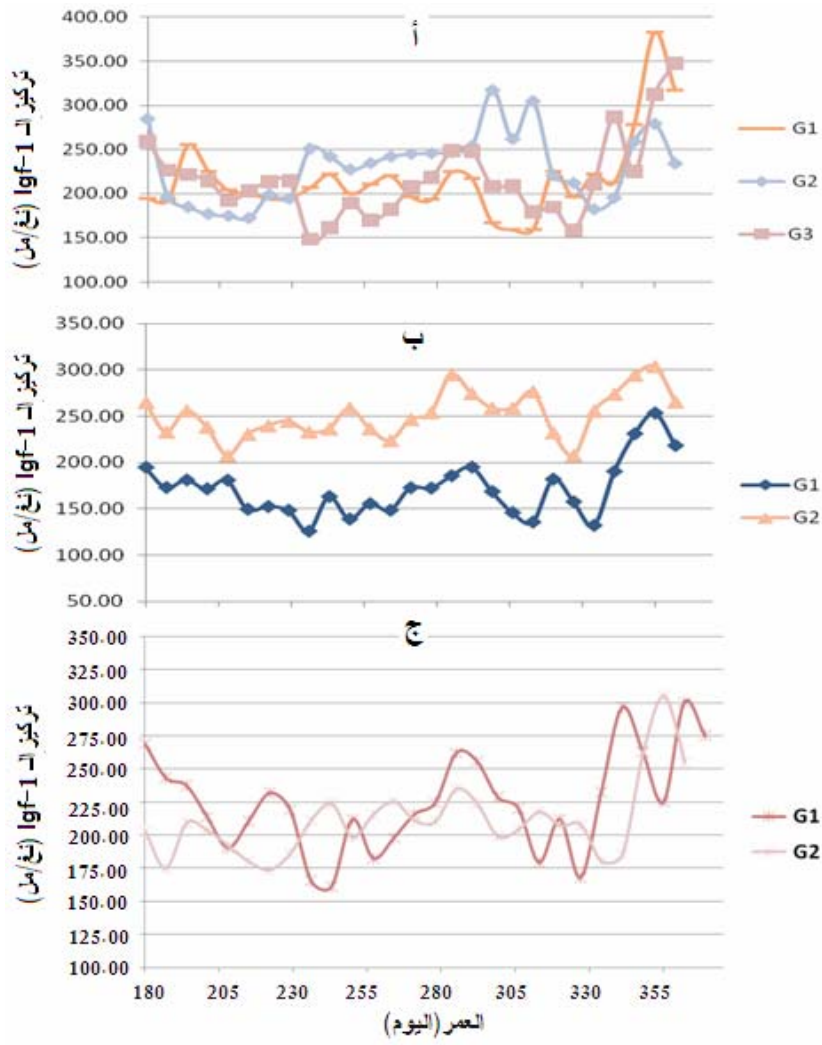
**(BW )** **IGF-1** **(SEM ± )** **(2)**  
**(BD)**  
**.(ADG)**

4.62 ±188	4.61±187.5	4.68 ±194.13	4.58 ±180.52	<b>BD /</b>
3.9 ±188		3.24 ±181.63	4.57 ±197.45	<b>BW</b>
3.8 ±188		3.61 ±193.32	3.97 ±180.01	<b>ADG</b>
7.19 ±222	6.01±224.9	9.56 ±200.88	5.94 ±247.27	<b>BD / IGF-1</b>
6.27 ±222 <sup>a</sup>		4.04±248.52 <sup>b</sup>	8.49 ±182.23 <sup>a</sup>	<b>BW</b>
5.82 ±222		6.57 ±201.55	5.06 ±252.56	<b>ADG</b>
0.17 ±13.27	0.18 ±12.68	0.21 ±13.72	0.13 ±13.28	<b>BD /</b>
0.15 ±13.28		0.17 ±13.27	0.13 ±13.13	<b>BW</b>
0.18± 13.38		0.13 ±13.07	0.19 ±13.59	<b>ADG</b>

(0.05 > p)



( ) ( ) ( ) (1)

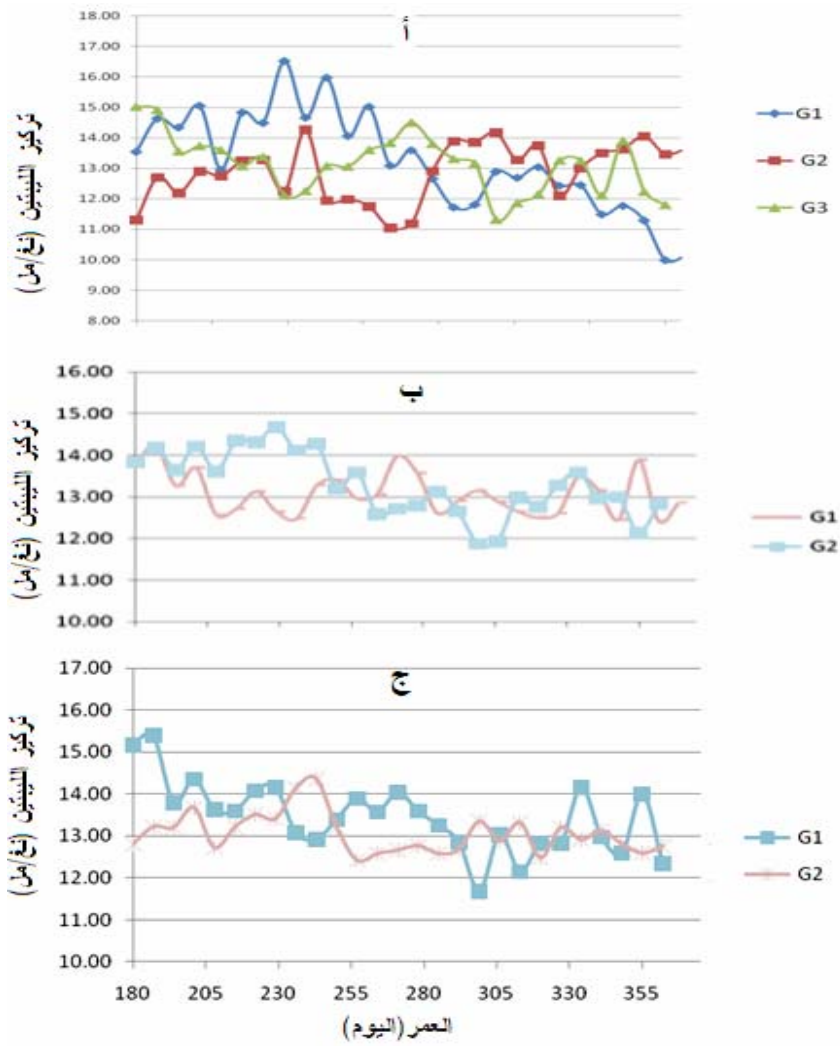


( ) ( ) ( ) (2) IGF-1

(3) :

( / 0.21 ± 13.72 0.18 ± 12.68 (2) )





( )

( )

( )

(3)

IGF-1

.( 12 6)

(1962 Lal :1962 Banerjee Kumar ; / 120 -100)  
(1979 Chandrasena ; / 129)  
(1988 Al-Ali ; / 17.7 ±138)  
; / 63) (1969 Ballard ; / 55-45)  
(1979 Chandrasena  
(1999 Abdel-Fattah)  
(1997 Elhamdi)  
(1981 Emmanuel .(1997 Barakat)

( )

IGF-1

(2006 Kirsty)

Pisselet Monniaux;1997 Webb Armstrong and Webb)  
(1992

(1987 Blair)  
Housechnecht) (1988 Eigenmann)  
(1990 Roberts) (1988

IGF-1 IGF-1

/ 6.27 ±222

(1996 Lamberson) / 15  
 (1991 Jones ; / 129 94)  
 (1990) Roberts  
 . / 8 ±249

IGF-1

(2005) Daftary

(GHRH)

Handelsman) IGF-1  
 Suter) (1990 Roberts) (1987  
 (1983 Luna) (2000  
 ( )

Wilson )  
 (1995 Hiney) (1998

13.38)

( / 0.16 ±

Delavaud) ( / 3.98)  
 (2000 Delavaud ; / 7.58 3.3) (2004  
 .(2005 Chilliard ; / 7-6)

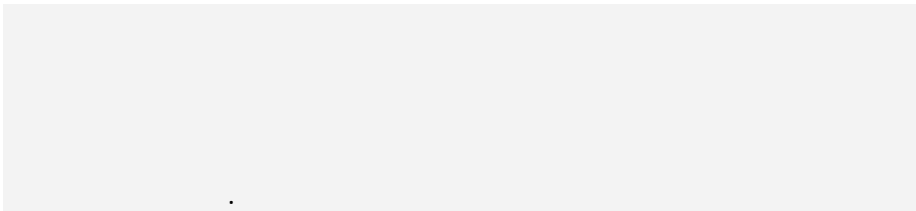
Blum)  
 Tokuda) (1997 Ahima) (1997  
 .(2003

(1999 Laud) (2002 Moschos)  
 Chilliard) (2002 Delavaud)  
 .(2001

(2005 Sayed- Ahmad)  
(2000 Delavaud)  
(2005) (2003 Liefers)  
Chilliard

(1997 Anouassi Tibary)

IGF-1



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