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## **PROCEEDINGS OF THE NUTRITION SOCIETY**

### **ABSTRACTS OF COMMUNICATIONS**

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**Undernutrition in drug addicts. Immunological study.** By A. MARCOS, P. VARELA, A. CASCO, I. SANTACRUZ and A. REQUEJO. Instituto de Nutrición y Bromatología (CSIC-UCM), Facultad de Farmacia, Ciudad Universitaria, 28040 Madrid, Spain.

Drug addicts suffer from anorexia and changes in food intake and are prone to infections. The aim of this work was to assess their nutritional status using immunocompetence as a sensitive and functional measure. Thirty six drug addict males (addiction times: 6-16 y), undergoing detoxification for over 3 months, were studied. They were subdivided into a non HIV infected group (HIV(-), n=20) and an HIV infected group (HIV(+), n=16). Anthropometric parameters: height, body mass index (BMI) and ideal body weight (IBW) were determined before and after detoxification. Leukocyte and lymphocyte counts and lymphocyte subsets (CD2, CD4, CD8, CD19 and NK by flow cytometry) were measured following the detoxification period. The results were compared with those of a healthy control group.

	Control (n=13)		HIV(-) (n=20)		HIV(+) (n=16)	
	Mean	SD	Mean	SD	Mean	SD
Age (years)	24.15	1.33	24.86	0.78	25.64	1.07
Detoxification period (months)	-		3.89	0.48	5.50	0.49
Before detoxification BMI (Kg/m <sup>2</sup> )	-		19.02	0.48	18.87	0.55
After detoxification BMI (Kg/m <sup>2</sup> )	22.90	7.20	22.53	0.47	22.98	0.51
Before detoxification IBW (%)	-		87.74	2.75	87.26	2.32
After detoxification (%)	105.75	9.97	106.00	3.36	105.35	2.33
<b>Immunological function after detoxification:</b>						
Leukocyte (cells/mm <sup>3</sup> )	7800	170	7118	247	6929	466
Lymphocyte (cells/mm <sup>3</sup> )	2260	792	2673	110	2494	267
CD2 (cells/mm <sup>3</sup> )	1720	349	1663	137	1798	86
CD4 (cells/mm <sup>3</sup> )	1140	110	1046	38	739	71**
CD8 (cells/mm <sup>3</sup> )	600	49	762	40*	1111	60**
CD4/CD8	1.90	0.19	1.37	0.11*	0.67	0.12**
NK (cells/mm <sup>3</sup> )	260	32	82.10	6.40*	71.00	6.00
CD19 (cells/mm <sup>3</sup> )	190	16	245	22*	173	29**

\* Significantly different from controls,  $P < 0.05$  (drug effect).

\*\* Significantly different from HIV negative,  $P < 0.05$  (HIV effect).

Drug abuse led to a decrease in CD4/CD8 ratio and NK cell count and an increase in CD8 and CD19 subsets. The HIV infection emphasized these modifications, except for the NK cells. HIV(+) group showed lower CD4 and CD19 levels than in the HIV(-) group.

These results suggest that despite the improvement shown following the detoxification period, a depleted immune status was observed in these drug addicts. It was not known to what degree this depleted immune status was due to drug abuse, HIV infection or subclinical malnutrition.