

The Relationship Between Smoking and Inflammation in Depression.

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Introduction

There is now an extensive body of data showing that depression is associated with a chronic low-grade inflammation. The obvious question is "What are the sources of this inflammation?" and "Could smoking be one of them?"

Objectives

The aim of the study is to investigate the association between depression and inflammation, and to highlight the role of smoking in this process.

Methods

The study included 65 depressed patients and 30 healthy controls. Blood samples of both groups were used for the measurement of the high-sensitivity CRP (hs-CRP) and the interleukin 6 (IL6).

Results

The mean value of hs-CRP was 2.02 mg/L among depressed patients and 1.42 mg/L among healthy controls ($p=0.198$).

Higher values of hs-CRP (≥ 3 mg/L) were found among depressed patients (20%) than among healthy controls (3.3%) ($p=0.033$).

The mean value of IL6 was 4.12 ng/ml among depressed patients and 2.68 ng/ml among healthy controls ($p=0.008$).

Higher values of IL6 (≥ 4 ng/ml) were found among depressed patients (29.2%) than among healthy controls (3.3%) ($p=0.004$).

The table below resume the relation between smoking and the elevation of inflammatory markers.

	non-smoking healthy controls	smoking healthy controls	non-smoking depressed patients	smoking depressed patient	p
hs-CRP (mean value) mg/L	1.1	1.79	1.9	2.08	0.467
IL6 (mean value) ng/ml	2.4	2.93	4.1	4.1	0.065

Conclusion

The causal relationship between smoking and depression is complex. Cigarette smoking increases the levels of inflammatory markers but did it leads to depression? Or did the depression increases smoking behavior? Or is there shared vulnerability factors for the both?