

Increased Oxidative Vulnerability Caused by Tobacco in Schizophrenia

A. Ballesteros¹, W. Jaimes-Albornoz¹, B. Cortés², F. Inchausti³

¹Outpatient clinics, Gobierno de Navarra Mental Health Services, Estella, Spain ; ²Outpatient clinics, Consulta Dr. B Cortés, Salamanca, Spain ; ³General Adult Inpatient Unit, Hospital Hermanas Hospitalarias Aita Menni, Elizondo, Spain

- Introduction: Schizophrenia has been associated with decreased oxidative defences which may imply lipid peroxidation and consequent damage of neuronal membranes and myelin sheaths. Recently, animal models have shown changes of the oxidative balance caused by cigarette smoke exposure at prenatal stages. Thus, we study the impact of tobacco over adult schizophrenia patients.
- Objectives: Study the oxidative role of tobacco in adults diagnosed of schizophrenia.
- Aim: Analyze Isoprostanes (IPs) urine concentrations in patients compared with healthy controls.
- Methods: We recruited a sample of 29 patients and 25 controls (descriptive data summarized below).

	Controls (N=25)	Patients (N=29)	F or X ² values	P values
Age (years)	38.76±13.72	41.10±13.81	0.009	0.55
Sex (male:female)	11:14	20:9	2.48	0.12
Smoker:non smoker	7:18	8:21	0.00	1.00
BPRS score	n/a	43.28±9.93	n/a	n/a

- IPs urine concentrations were measured in conjunction with creatinine levels (to normalize the rate of excretion of other analytes). We also evaluated the values of IPs in relation to cigarette smoke.
- Results: There is a smoking by diagnosis interaction on IPs ($p = 0.01$). IPs values were statistically different between smokers and nonsmokers for the 54 participants ($p = 0.02$). Nonsmokers mean values were lower (2.80 ± 1.55) than in smokers (4.16 ± 2.41). There were significant differences in IPs concentrations of the smoker patients compared with the respective nonsmokers ($p = 0.01$). By contrast this was not observed in controls.
 - Conclusions: We suggest that adult schizophrenia individuals may have increased vulnerability to exogenous pro-oxidative agents such as cigarette smoking.