COMBINED EFFECTS OF OBESITY, ALCOHOL AND SMOKING HABIT ON SEMEN QUALITY


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Several factors have been identified as detrimental for sperm physiology (i.e. tobacco, alcohol, obesity, endocrine disruptors, etc); however, none of them can justify seminal decline by itself. Therefore, the objective of this study was to retrospectively evaluate the combined effects of obesity and tobacco/alcohol consumption on semen quality of men who attended an andrology laboratory in Argentine. Patients (n=2483) were not azoospermic and had no history of toxin exposure (pesticides, radiations, etc) genitourinary diseases or surgeries. Data were analyzed by MANCOVA test, age and abstinence were used as co-variables, and body mass index (normal, overweight or obese), tobacco (no smoker or smoker) and/or alcohol consumption (non-drinker, moderate drinker -1 glass/day- and heavy drinker -2 to 5 glasses/day-) were used as factors.

The combined effects of obesity and heavy-drinking habit significantly (p= 0.0024) diminished semen volume (2.1±0.3ml, n=22) in contrast to the other groups (obese non-drinkers: 3.0±0.1, n=395; normal non-drinkers 3.2±0.2, n=77) with significantly higher values for the normal/moderate drinkers group (3.8±0.2, n=55). Similar results were observed for total sperm count (p=0.0088), yielding the lowest values in obese drinker patients (obese heavy drinkers: 92.2±29.5 sperm/ejaculate, n=22) and the highest values in normal/moderate non-drinkers (223.4±18.6, n=55 and 161.3±8.76, n=647 respectively). Smoking habit did not seriously affect semen quality; nevertheless obese
smokers showed longer (p=0.0262) histories of sterility than other groups (obese smokers: 3.2±0.3 years, n=98; obese non-smokers: 2.1±0.3, n=352; normal non-smokers: 2.5±0.2, n=619).