

吸菸對精液品質的影響

The impact of cigarette smoking on sperm parameters

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Study Question: Cigarette contains toxic compounds which were already known to be hazard to human health and related to several cancers of human body. A large number of men worldwide smoke and still are able to conceive. The aim of our study was to evaluate the impact of cigarette smoking on sperm parameters.

Study Design, Size, Duration: 3544 Male patient who visited our Center for Reproductive Medicine between March 2005 to June 2014 were retrospective included in this analysis.

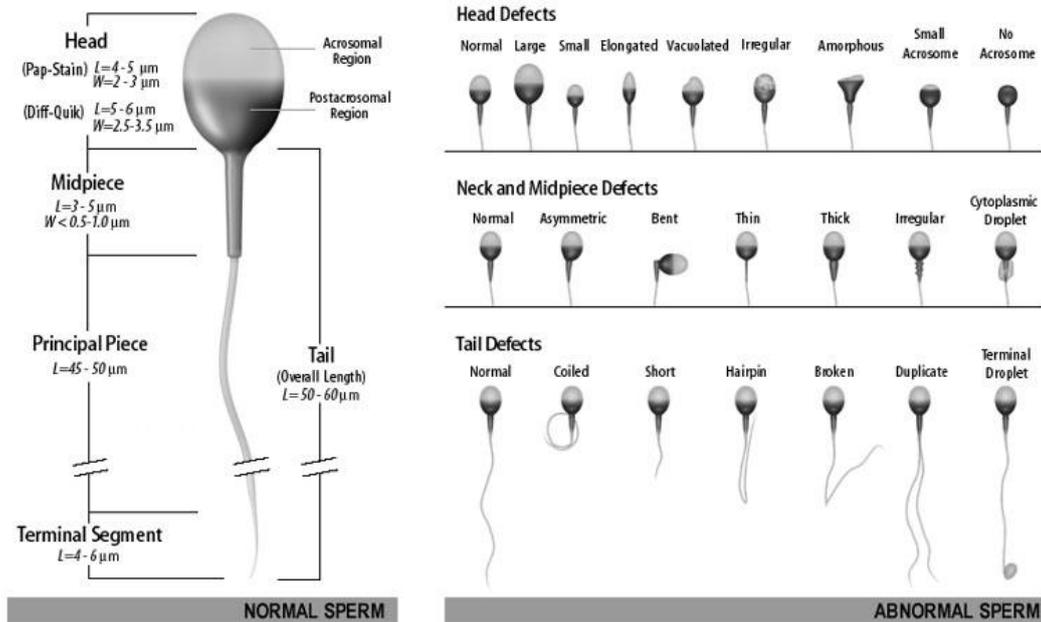
Materials, Setting, Methods: Patients were classified into two groups according to if they smoke or not. Group one include 2545 patient who were non-smoker. Group two include 999 patients who were current smoker. Semen analysis were perform by Computer Assisted Semen Analysis (CASA). Sperm morphology was evaluated under 1000x light microscope with oil and follow the "Kruger strict criteria". Patient's basic characteristics and semen parameter were compared between two groups. Results are reported as means \pm SEM. Statistical analyses were performed using the Student's t-test. Values were considered significant when $P < 0.05$.

Main Results: There is no difference in age and BMI between smokers and non-smoker ($P > 0.001$). There were also no difference in semen parameters between two groups. The sperm concentration($\times 10^6$) was 60.9 ± 37.5 in group 1 compared to 61.1 ± 38.3 in group 2 ($P > 0.001$). The sperm motility(%) was 53 ± 19 in group 1 compared to 54 ± 19 in group 2 ($P > 0.001$). The normal form of sperm(%) was 13 ± 8 in group 1 compared to 13 ± 7 in group 2 ($P > 0.001$).

Table 1. Comparison of semen parameters between two groups exclude azoospermia

	Nonsmoker	Smoker	P value
No. of cases	2545	999	
Age(y/o)	34.5 ± 4.5	34.7 ± 4.8	NS
BMI(kg/m ²)	25.2 ± 3.5	25.2 ± 3.9	NS
Sperm concentration(×10 ⁶)	60.9 ± 37.5	61.1 ± 38.3	NS
Sperm motility(%)	53 ± 19	54 ± 19	NS
Progressive motility(%)	6 ± 7	7 ± 7	NS
Normal form(%)	13 ± 8	13 ± 7	NS

Student's t-test, P<0.05



Conclusion: To our surprise that we did not find the any influence in basic semen parameters between smokers and non-smokers. Further studies were need to understand whether the level of sperm DNA fragmentation were changed between two groups. Nevertheless, since smoking is already known to be the origin of many health problems, stop smoking should be encouraged to all patient whether they are going to conceive or not.