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EDITOR
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Major General Avnish Kumar Varma, AVSM obtained his Master's Degree in Maxillofacial Surgery from University of Bombay and underwent advanced training in Maxillofacial Surgery and Prosthesis at Eastman Dental Hospital, London, at Rigshospitalet-Copenhagen, at University of Freiburg-Germany, at Tyrant County Hospital Fort Worth-Texas USA, in ENT at RNTE and in Oncology at the Royal Marsden UK.

He bid farewell to his outstanding career as an Oral & Maxillofacial Surgeon in 1976 and established the first ever Primary Ablative and Reconstructive Surgery Unit for treatment of Oral Cancer at Air Force Hospital, Kanpur, India.

General Varma was the youngest officer to receive prestigious Presidential Award, AVSM for his meritorious services rendered to the nation in 1985.

General Varma has not only been a guest speaker and Chairperson at many international meetings abroad but has been instrumental in organizing these. In 1960, his first work was published and has many publications to his credit including 11 books on Oral Oncology and two on Tobacco Counters Health.

In 1992, he was awarded the Kaiser William Frederick Mark (coin 1743) for distinguished service rendered to the cause of Oral Oncology by DOSAK. The award was instituted in 1901 and he is the 11th recipient and the first non-European to be thus honoured.

He was appointed as Honorary Surgeon to the President of India in 1994.

He and his wife Usha have been married for 41 years and have a son Rohit and a grandson Kesar, a daughter Supriya and a grandson Avnish.
Study of Plasma Lipid Peroxidation, Lipids and Blood Sugar Level in Opium Addicts Compared with Control Group

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INTRODUCTION

Nowadays, narcotics addiction has changed great human manifestations, besides decrease in active power of society. In recent century according to spread of narcotics addiction in human societies, it has become propounded as one of the most important human problems.

Addiction is not only destructive but also causes many social and individual problems. Opium is derived from poppy plant and contains more than 20 kinds of alkaloids. Prevalence of addiction varies among different countries, cultures and jobs. In the United States despite firm laws against entrance and distribution of narcotics that was made in 1914, use of narcotics especially heroin has increased in recent years. About 2.5 millions heroin addicts have been reported in the US(8).

In Iran despite nation wide struggle against this ominous phenomenon, narcotics addiction has increased in recent years. In the first 10 years of struggling against narcotics in Iran, more than 5000 drug dealers were executed and more than 2500 police were martyred.

Addiction has many etiologies, ethnic, hereditary, biologic, physical, psychologic, social, cultural, familial, occupational and economic. Unfortunately some of the people and even a few of the physicians believe that opium has useful effects on cardiovascular diseases (CVD) and diabetes.

Studies show that heroin addiction causes hyperkalemia, morphine use can result in calcium inhibition, hypercholesterolemia(12) and inhibition of vascular endothelial growth factor (VEGF) expression in myocardial ischemia(13). Central administration of opiates and opioid peptides may act indirectly via the sympathetic nervous system to cause hyperglycemia and impaired insulin secretion, while peripheral administration tends to stimulate insulin
and glucagons secretion(18). Thus, heroin addicts, like patients with non-insulin-dependent diabetes, does not respond appropriately to glucose signals(14).

As the increase in blood lipids, lipid peroxidation and blood sugar are important CVD risk factors, this study intends to investigate the effect of opium on these biochemical factors.

MATERIALS AND METHODS

In this case-control study, we chose 32 opium addict men as case group and 32 cigarette smoker non addict men as control group.

Urine analysis with morphine strip test was done for confirmation of no addiction in control group.

As the majority of opium addicts were cigarette smoker, too, for elimination of cigarette effect, cigarette smokers were chosen as control group in this study.

The addict groups were 25-40 year-old men with 1 gr. daily opium use for at least 3 years and their route of opium use was inhalation.

Control group was 25-40 year-old non addict cigarette smoker men. In both groups patients with diabetes, hypertension and hypercholesterolemia were excluded.

No one in this study was on specific medication or diet. Information was obtained by questionnaires. Questionnaires contained information about duration of opium addiction and concomitant cigarette smoking, history of specific disease and physical examination.

Blood samples in both groups were obtained from veins and all of the samples were examined in cardiovascular research center laboratory.

Fasting blood sugar, Total cholesterol, High density lipoprotein and Triglyceride were measured by Pars Azmoon kit and Elan autoanalyzer and Low density lipoprotein was calculated with formula. Glycosylated hemoglobin (HbA1C) was measured by colorimetric method and malondialdehyde (MDA) was measured by Shimadz spectrophotometer (2, 3, 5). Data were analyzed by t-test and SPSS and EPI6 statistical software.

FINDINGS

There was no significant statistical difference between the mean of cigarette smoking and the mean of age in addict group compared to control group.

Mean of addiction duration in addict group was 8.92 ± 5 years and mean of their daily opium use according to their states was 4.8 ± 1.5 gr.

Mean of serum FBS level in addict group was 84.03 ± 26.8 mg/dl and in control group was 90.03 ± 32.3 ml/dl, that there was no significant statistical difference between them (Table 1).

In this study the mean of HDL in addict group was lower compared with control group. There was no significant statistical difference in the mean of TG, between case group and control group in this study. The mean of MDA in the current study was higher in addict group compared with control group but was not significant.

DISCUSSION AND CONCLUSION

In the current study, there was no significant statistical difference among FBS, HbA1C, TG, Total Cholesterol, HDL, LDL and malondialdehyde in opium group compared to control group. Although one study demonstrated that morphine administration increases blood
of the mean of biochemical factors between addicts group and control group.

<table>
<thead>
<tr>
<th>Group/Biochemical factors</th>
<th>Addict ( n = 32 )</th>
<th>Non addict ( n = 32 )</th>
<th>P. Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FBS (mg/dl)</td>
<td>84.03 ± 26.8</td>
<td>90.03 ± 32.30</td>
<td>0.46</td>
</tr>
<tr>
<td>HbAIC (%)</td>
<td>8.04 ± 0.91</td>
<td>8.12 ± 2.07</td>
<td>0.15</td>
</tr>
<tr>
<td>HDL-Ch (mg/dl)</td>
<td>40.17 ± 8.99</td>
<td>42.43 ± 7.37</td>
<td>0.32</td>
</tr>
<tr>
<td>LDL-Ch (mg/dl)</td>
<td>127 ± 41.48</td>
<td>137 ± 44.23</td>
<td>0.42</td>
</tr>
<tr>
<td>Total-Ch (mg/dl)</td>
<td>208 ± 52.5</td>
<td>227 ± 57.1</td>
<td>0.22</td>
</tr>
<tr>
<td>TG (mg/dl)</td>
<td>204 ± 157</td>
<td>241 ± 180</td>
<td>0.43</td>
</tr>
<tr>
<td>Malondialdehyde (μ mol/lit)</td>
<td>1.15 ± 0.2</td>
<td>1.13 ± 0.17</td>
<td>0.76</td>
</tr>
</tbody>
</table>

Table 1. Comparison of the mean of biochemical factors between addicts group and control group.

sugar and in another study, morphine was administrated to rats and added to their daily diet and after that their total cholesterol and LDL were increased (1, 10).

Unfortunately some people believe that opium decreases blood sugar in diabetic patients and advise it as a treatment for diabetes.

Study on rats has demonstrated that morphine administration and daily diet containing morphine decreases HDL. In heroin addicts HDL has been lower compared with control group (7). In our study mean of HDL in addict group was lower compared with control group and this can show the greater risk for coronary disease in addict group (1, 7).

In some of studies morphine administration to rat has decreased TG and serum TG levels has been higher in heroin addict groups compared with control groups.

In the percent study, there was no significant statistical difference in the mean of TG between case group and control group.

MDA is a measurable index that shows lipid peroxidation and today it has confirmed that lipid peroxidation and lipoproteins that changed due to oxidation, are major cause of atherosclerosis.

On the other hand, it has been demonstrated that morphine stimulates malondialdehyde production (6).

In the current study, the mean of malondialdehyde in addict group was higher compared with control group but wasn't significant. May be with increasing the samples, this difference become significant.

Therefore, we can say that increase of peroxidation products like MDA can demonstrate the greater risk for cardiovascular disease.

This study showed that opium use has no useful effect on blood sugar or blood lipids reduction and if some of these biochemical factors has been lower in addict group (although it isn't significant), may be it is due to economical and nutritional problems in opium addicts.

In addition, effect of opium on other important cardiovascular risk factors like coagulation factors is considerable. Another study demonstrated that fibrinogen, a major and independent risk factor in development and progression of atherosclerosis-increases in opium addicts (4, 9, 11).
REFERENCES