SMOKERS VS. NON-SMOKERS: A COMPARATIVE STUDY OF POST-OPERATIVE COMPLICATIONS

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ABSTRACT

There is some evidence that smoking accelerates the ageing processes. The cardio-vascular, respiratory and even the musculo-skeletal tissues are affected by these. In addition to the general health risks associated with smoking, research has shown that smokers are also more likely to suffer complications during and following surgery. Some surgeons will not perform surgery on a patient who is a smoker.

The main aim of the study is

1. To find out the complications faced by the smoker who undergoes surgery.
2. To find out whether the statistics of complications increase or decrease with each passing smoke-years.
3. To compare the complications with that of non-smokers.

The study was done on forty patients in KVG Medical College, Sulliya.

As the pack years goes on increasing the risk factors also increase in a linear way. The increase in the risk fold doubles after two decades of pack years

KEYWORDS

Smokers, Non-Smokers, Post-Operative, Complications.

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INTRODUCTION: Today in India smoking tobacco is one of the main problems seen in the youths. The ever changing life style has a major influence on the health of today's generation. The so called western culture is influencing the youths and today smoking is seen as a style quotient. The urban population is the main affected. Equally influenced are the youths of rural population. The drastic effects of smoking are not yet seen in a developing economy of ours since we have a majority of our population under thirty years of age. The drastic effects will start showing when the population gradually ages. The ever growing age factor of the population has to be taken into consideration and the ill effects of smoking tobacco should be studied in detail before it is too late.

There is some evidence that smoking accelerates the ageing processes. The cardio-vascular, respiratory and even the musculo-skeletal tissues are affected by these.[1-15] Damage to erythrocyte precursors, macrophages, and fibroblasts[16] and the vasoconstrictive and thrombogenic effects of nicotine have been implicated as possible etiologic factors. Collagen production is an important factor in wound repair and has been found to be decreased in smokers.[17-19] Carbon monoxide reduces tissue oxygenation and impairs the microcirculation within healing soft tissue and bone. Nicotine is also a potent vasoconstrictor and impairs the revascularisation of healing bone leading to impaired bone and wound healing. Hypercoagulability observed in smockers may be explain by an increase of haematocrit value, red cell volume, and high plasma fibrinogen levels. It has also been demonstrated that smoking has an effect on the immune system.[20] All of this leads to a decreased blood delivery to tissues.[1]

In addition to the general health risks associated with smoking, research has shown that smokers are also more likely to suffer complications during and following surgery.[21-23] Some surgeons will not perform surgery on a patient who is a smoker.[24]

In a country like ours where there is a shortage of medical facilities there is figuratively no time with a surgeon to wait for a patient for some weeks, so that the patient would cut down smoking and then turn up for surgery.

The following study is an attempt made to find out the level of post-operative complications faced by a smoker when that compared to the non- smoker.

AIMS AND OBJECTIVES:

1. To find out the complications faced by the smoker who undergoes surgery.
2. To find out whether the statistics of complications increase or decrease with each passing smoke-years.
3. To compare the complications with that of non-smokers.

MATERIALS AND METHODS: Forty male patients were identified who were smokers and divided into four equal groups based on their age.

Group 1 consisted of smokers who were aged between 20 and 30 years.

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Group 2 consisted of smokers who were aged between 30 and 40 years.

Group 3 consisted of smokers who were aged between 40 and 50 years.

Group 4 consisted of smokers who were aged between 50 and 60 years.

They were not differentiated based upon the surgery which they underwent. The only criteria that was taken was the timing of the surgery was at least one hour.

The study was done in KVG Medical College, Sulliya. The study was done from February 2014- to December 2015.

Equal number of non-smokers were separated into each group and the post-operative complications were studied.

RESULTS:

Group	Complications
One	Nil
Two	Infection:2
Three	Infection:1, Dehiscence:1, erosion of tissue:1
Four	Infection:1, Sepsis:1, Pulmonary:1, CVS:1

Table 1: The complications seen in each group

Group	Complications
One	Zero
Two	20%
Three	30%
Four	40%

Table 2: The statistical significant

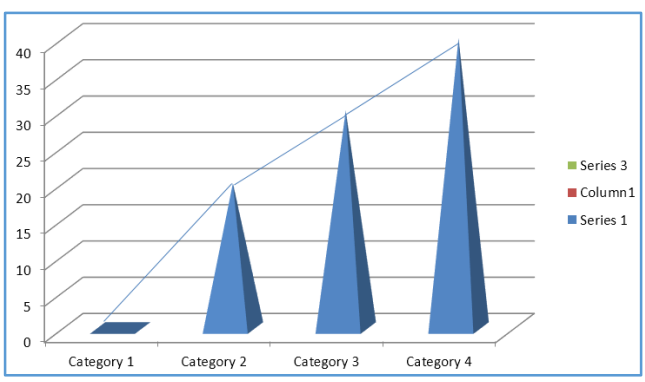

Table 3: Showing the statistical significance

Group	Complications	Complications in Non-Smokers	Significance
One	Nil	Nil	Not significant
Two	Infection:2	Nil	Significant
Three	Infection:1, Dehiscence:1, erosion of tissue:1	Infection:4	Significant
Four	Infection:1, Sepsis:1, Pulmonary:1, CVS:1	Infection:1	Significant

Table 4: Comparison of smokers and non-smokers

DISCUSSION: When compared with the other study the following can be noted.

The magnitude of the impact of smoking on perioperative outcomes was studied in a retrospective review of data from more than 500 000 patients in the US who had non-cardiac surgery.[25,26] Information on the 30-day period following surgery was compared for 82 304 current smokers and 82 304 control patients. Current smokers were 40% more likely to die than never smokers. Their risk of major morbidity also increased: the risk of pneumonia doubled, the risk of unplanned intubation almost doubled, and the odds of postoperative ventilation increased by 50%, cardiac arrest by 60%, myocardial infarction by 80%, and stroke by 70%. The risk of superficial and deep infections increased by 30% and 40%, respectively, and sepsis, organ space infections and septic shock were 30% to 50% more likely. The increased perioperative mortality and morbidity were confined to patients who had smoked more than 11 pack-years.

Our study is in agreement with that of the other two studies but the pack years that was shown to affect our population was far more. This may be due to genetic or anthropological causes as the population studied was different.

In our study it is very clear that as the pack years goes on increasing the risk factors also increase in a linear way. The increase in the risk fold doubles after two decades of pack years. When compared to the non-smokers there is a significant difference between the complication faced post operatively.

CONCLUSION: As the pack years goes on increasing the risk factors also increase in a linear way. The increase in the risk fold doubles after two decades of pack years

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