بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـــسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
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بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

PERIOPERATIVE ARRHYTHMIA

Essay
Submitted for Partial Fulfillment of the M.Sc. Degree
In Anaesthesia and Intensive Care

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INTRODUCTION

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Arrhythmia is defined as any disturbance in the normal sequence of cardiac activation or deviation beyond accepted limits of the rate or regularity of the heart beat *(Warren et al., 1990).*

The anaesthesiologist is held responsible for treatment of cardiac arrhythmia, this responsibility is held because the anaesthesiologist is usually the closest physician to the patient when he develops arrhythmia, and because arrhythmia may be so serious that it can jeopardize the patient's life and it necessitates immediate treatment. Moreover, the anaesthesiologist may induce cardiac arrhythmia, inadvertently, by the drugs and/or manoeuvers he uses during anaesthesia. Arrhythmia is more prone to develop in patients with narrow cardiac reserves (e.g., ischaemic heart, impending heart failure, cardiomyopathy) *(Kaplen, 1991).*

The anaesthesiologist may encounter cardiac arrhythmia during the preoperative, operative or postoperative periods. During the preoperative period especially in emergeny cases, arrhythmia may develop due to pre-existing cardiac diseases e.g., ischaemia, valvular lesions, electrolyte or metabolic disturbances or pre-existing diseases such as pneumonia, peritonitis, and some types of trauma. In the intraoperative periods, it may develop due to continuation of the preoperative causes and/or the effect of drugs being used during anaesthesia and surgery. Also, it can be precipitated by direct mechanical stimulation of the heart (e.g., insertion of C.V.P or Swan-Ganz catheters), laryngoscopy and intubation. Light anaesthesia, hypoxaemia and hypoventilation are considered major predisposing factors for cardiac arrhythmia *(Gogagi et al., 1995).*

In the postoperative period, arrhythmia may be seen due to continuation of the previous causes or the increased incidence of hypoxaemia and hypercarbia due to postoperative pain and/or insufficient decurarization. Again, some metabolic and/or endocrinal crises can develop postoperatively and may lead to arrhythmia *(Suarwiez, et al., 1987)*.

During the last few decades, cardiac arrhythmia during anaesthesia was encountered more frequent. This increased frequency can be reasoned by:

1- The increased human life-span that increased the ratio of high-risk patient.

2- The increased standard of social and medical care that brought a highly sophisticated monitoring devices into the operating room.

3- The increased incidence of using some invasive techniques (e.g., C.V.P., Swan Ganz catheters) that can produce arrhythmia *(Sharky, 1987)*.

Nowadays, the anaesthesiologist has a better opportunity to handle any cardiac arrhythmia during anaesthesia. This was achieved by:

1- The increased understanding of cardiac dysfunction especially with the modern tools available to disclose any ischaemic changes, valvular dysfunction, conductive defects or even myocardial dysfunction. These modern tools include echo-cardiography, cardiac catheters and nuclear cardiology.

2- The great advent of antiarrhythmic drugs selectively chosen to each type of arrhythmia *(Somberg, 1981)*.