CONTROL OF INFECTION IN A CARDIAC SURGICAL UNIT

A review Article Submitted for Partial Fullfillment of the Master Degree in General Surgery

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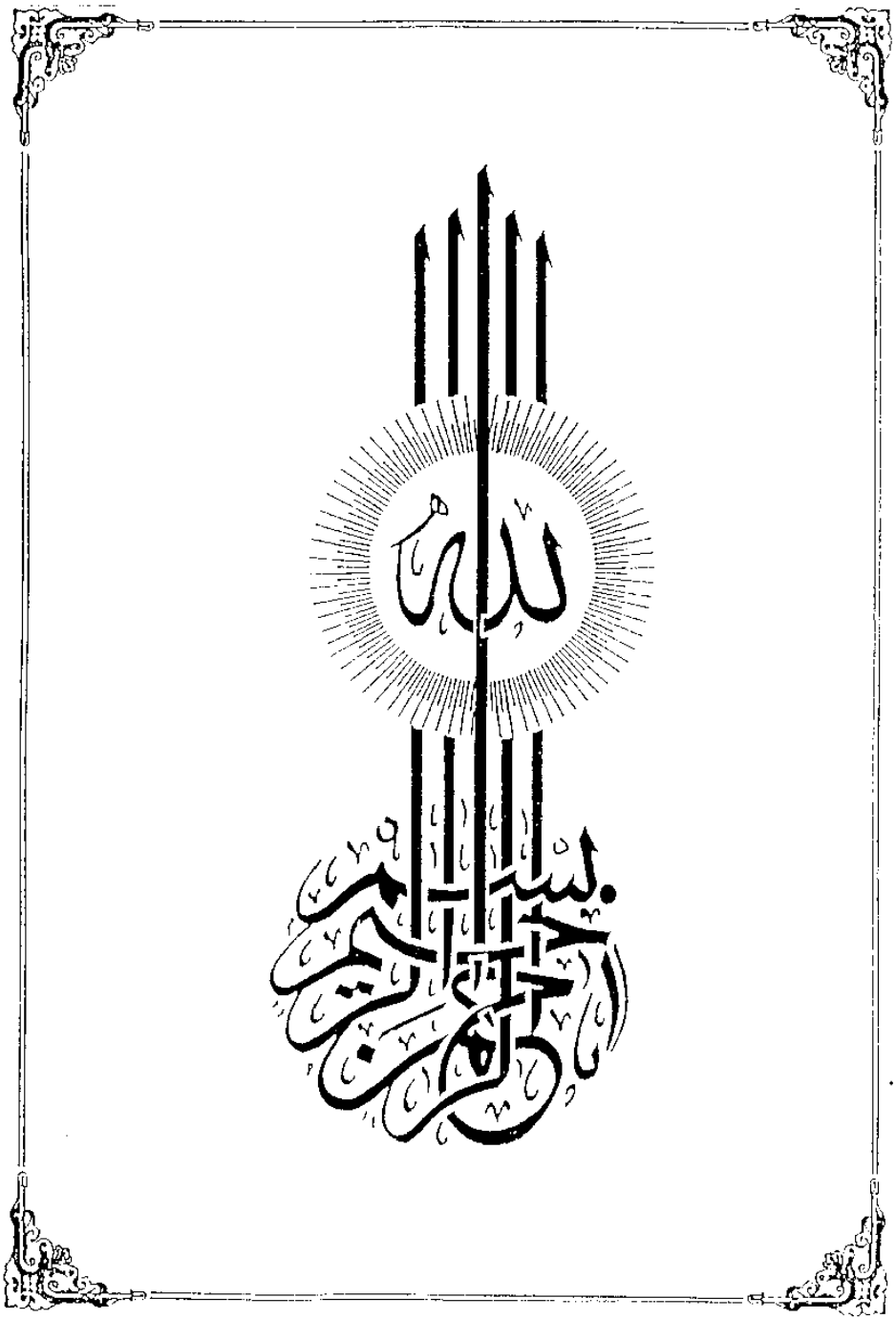

DEDICATION

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" انى رأيت أنه لا يكتب أحدا كتابـــا
فى يومه الا قال فى غده : لو غـــير
هذا لكان أحسن ، ولو زيد هذا لكان
يستحسن . ولو قدم هذا لكان أفضـــل ،
ولو ترك هذا لكان أجمل ، وهذا مـــن
أعظم العبر ، وهو دليل على استيـــلاء
النقص على جملة البشر "

العماد الأصفهانى

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Abbreviations

B.P.	*blood pressure*
CABG	*Coronary artery lypass graft*
CHD	*Chlorohexidine*
COP	*Cardiac autput*
CPB	*Cardiopulmonary lypass*
CSF	*Cereluospinal fluid*
CVP	*Central venous pressure*
GIT	*Gastrointestinal tract*
HCP	*Hexachlosophane*
HR	*Heast rate*
IM	*Intramuscular*
IPPV	*Intermittent positive pressure ventilation.*
IV	*Intravenous*
MBC	*Minimal Bactericidal Concentration*
MIC	*Minimal inhibitasy concentration*
NVE	*Native volve endocarditis*
PAWP	*Pulmonasy astery wedge pressure*
PNL	*Polymorphonuclear leucocyt*
Povid-iod	*Povidone iodine*
PT 1/2	*Plasma half life time*
PVE	*Prosthetic Valve Endocarditis*
SBC	*Serum loctevicidal concentration*
Staph.	*Staphylococci*
Stept	*Streptococci*

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AIM OF WORK

AIM OF THE WORK

Postoperative cardiac infections, may be associated with considerable morbidity and mortality. This review article is an attempt to provide the broad outlines of the prophylaxis and control of these infections. The common organisms causing surgical sepsis are discussed, in association with their potential sources. The immune response to infection has been outlined with respect to the function of eliminating the invading contaminants. Postoperative cardiac infections are outlined to show their serious consequences. Other extracardiac infections are outlined in association with their potential risk factors. Predisposing risk factors are discussed. Prophylactic measures depend on the rigorious application of certain basic principles. Contamination must be prevented, the ability of the host to fend off invading contaminants must be protected and enhanced. Prophylactic antibiotics are discussed and the results of many clinical trials are summarized. Broad outlines of the management of established infections are mentioned to stress the value of an aggressive combined approach.

INTRODUCTION AND BACKGROUND

Historical notes:

Since the beginning of medicine, surgeons have made major and ever continuing efforts to eliminate sepsis and strived for achieving a zero level postoperative bacterial infection rate. The concepts conceived to solve this problem varied according to the current state of knowledge concerning bacteria. Today, the whole scene is totally changed in a way hard for most to imagine due to the work of many people, among whome Pasteur, Lister, Ehrlich, Domagk and Florey are the best known names. There have been two phases of intense, almost revolutinary development, in the means employed by surgeons against infections. The first phase was centered on the discovery of the causes of infection and methods of prevention. Pasteur, Koch and Lister are great names associated with this phase. The second phase was that of effective systemic treatment, associated with Domagk and Florey. No real known progress against infection had been made till 1795 when Alexander Gordon puplished in London "A Treatise on the Epidemic Puerperal Fever of Aberdeen" in which he made clear the relevance of puerperal fever-to surgical infection and pointed out three crucial paints: the cause, transmission and prevention of the infection. In 1843, Oliver Wendell Holmes published "The Contagiousness of Puerperal Fever" evidencing that the medical attendants carried the infection. In 1840 Iginaz Semmel Weiss in Vienna established the relations between surgical sepsis, puerperal fever and the role of medical attendents. By