Update in Dental Care for Pregnant Mothers
Part One: Physiological Changes

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ABSTRACT. The pregnant patients require special attention to dental management. Part one of this series reviews the physiological changes in the pregnant patients, namely to the cardiovascular, the haematological, the respiratory, the gastrointestinal and the renal and genitourinary systems. The significance to dentistry and patient care is emphasised.

INTRODUCTION

Pregnant patients are seen rather commonly in the dental offices. However, the possible side effects of dental care on these patients can be misunderstood by both the patients and dentists concerned. The dental management of pregnant patients is different from that of the routine dental patients because of some associated physiological and hormonal changes in their body system. Because of these changes too, pregnant women need special dental care and treatment in order to minimise possible risk to the fetus and mother.

This paper reviews the updates in the dental care for patients during their pregnancy. It is divided into four parts. Part one gives a review of the physiological changes in the pregnant patients, namely to the cardiovascular, the haematological, the respiratory, the gastrointestinal and the renal and genitourinary systems. Part two deals with the commonly asked questions regarding the prescription of drugs during pregnancy. The third part reviews the dental and oral side effects of pregnancy with discussion on the use of trimester approach in treating these patients. Finally, an introduction to intraterine dentistry and adolescence pregnancy is described in part four.

This review is meant to give a general guidelines regarding the management of pregnant patients and the dental practitioners are strongly advised to consult the dental specialists, obstetricians and/or physicians in order to achieve the best management for the patients under their care.

Changes to the Cardiovascular system

The changes in the cardiovascular system during pregnancy are profound. The intravascular blood volume increases by 30% to 60%. Thus, by the time of parturition, the maternal circulation has been increased by 1-2 Litres. In the meantime, the heart rate increases approximately 10 beats per minute from the third to seventh month of pregnancy. At the same time, the cardiac output also rises about 30% to 40% as a result of this expanded blood volume. The peak is reached during the early part of the second trimester.

The increased of plasma volume exceeding that of the red blood cells volume causes a decrease in haematocrit. Functional heart murmurs or pregnancy murmurs may develop along the dilutional anaemia. Pregnancy murmur is a misnomer and is frequently misinterpreted to be innocent. Unfortunately, certain types of heart murmurs have been found to have a high incidence during pregnancy or in nonpregnant women of childbearing age. This poses a hazard to the patient should bacteraemia result from dental treatment.

A consultation between the dentist and the obstetrician is strongly advised when the pregnant patient gave a history of heart murmur. Prophylactic antibiotics may be required for the heart murmur. The dentist must differentiate the heart murmur from cardiac arrhythmias, as the latter do not require any antibiotic prophylaxis.

Blood pressure can be reduced in both systolic and diastolic aspects. Mean arterial blood pressure may decrease early in pregnancy to a point about 10 mm