Update in Dental Care for Pregnant Mothers  
Part Two: Drugs Prescription

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ABSTRACT. The pregnant patients require special attention to dental management. Part two of this series reviews the drugs that are indicated and contra-indicated for pregnant women. The concept of teratogenesis as well as the United States Food and Drug Administration drug category for pregnant women is highlighted.

INTRODUCTION

Although drugs administered to a pregnant patient have the mother as the principle target, the foetus invariably is also a recipient. Part two of this series review the commonly used drugs in dentistry and their significance to the mother and foetus. This is meant to be a guideline and the dentist is advised to refer to the latest Dental Practitioners' Formulary, the British National Formulary or Briggs's Drugs in Pregnancy and Lactation for further details and recent advances.

Drug and chemical exposure during pregnancy is believed to account for only about 1 percent of congenital malformation but this cannot be taken lightly. Let's start by understanding the principle of teratogenesis and how drugs are classified by the United States Food and Drug Administration (FDA) before they are discussed in further details.

Teratogenesis

A teratogen is any agent that when exposed to the foetus causes permanent alterations in function or form of the offspring. There are many proven and probably even more unproven teratogens to the foetus.

An important concept to teratology is the idea that the organ or structures formed during the time of exposure are at risk for damage. For practical purposes, pregnancy can be divided into three periods:

1. Ovum – from fertilization to implantation
2. Embryonic period – from the second through eighth week
3. Foetal period – after the eighth week until term

The embryonic period is the most susceptible to teratogenesis because this is the time of organogenesis. Teratogenic exposure after the development of the vulnerable structures usually does not result in alteration. There are a few exceptions including tetracycline, which if taken during the second half of pregnancy causes a yellow-brown discoloration of deciduous teeth.

Adverse drug effects that are specific to the health of the foetus include congenital defects, miscarriage, complications during delivery, low birth weight and postnatal drug dependence. The effects are usually specific to the timing of the drug administration – during the first, second or third trimester – the dosage and the duration of therapy.

The Food and Drug Administration (FDA) has established a five-category system to alert practitioners to the risks of foetal exposure to medication (Table 1). The five categories provide a guide to the relative safety of drugs prescribed to pregnant women.

Proven teratogens to the foetus

- Alcohol
- Aminopterin
- Androgens
- Chlorobiphenyl
- Coumarins
- Cyclophosphamide
- Danazol
- Diethylstilbesterol
- Eretinate
- Isotretinoin
- Lithium
- Angiotensin-converting enzyme inhibitors
- Busulfan
- Methimazole
- Methotrexate
- Pencillamine
- Phenytoin
- Tetracycline
- Trimethadione
- Valproic acid
- Carbamazepine