Substance Abuse in Pregnancy

PREGNANCIES COMPLICATED by the use of substances with abuse potential occur at an alarming rate. A 1988 survey of 36 hospitals found that 11% of women having children in those hospitals had used an illegal drug at some time during pregnancy. In a population-based survey of 715 women entering prenatal care during six months in Pinellas County, Florida, 14.8% of the women had a positive urine toxicology screen for cocaine, marijuana, alcohol, or heroin. This prevalence was independent of racial and socioeconomic differences. These findings reflect the high rate of substance use among women of childbearing age (15 to 45 years). Within this group, 60% (34 million) are current drinkers, 32% (18 million) are smokers, and 11% (6 million) use marijuana. Women in this age group often alter their substance use when pregnancy is diagnosed. Fetal damage may already have occurred, however, because diagnosis frequently takes as long as two months. When women cannot alter their substance use during pregnancy, maternal and fetal health are even further compromised. The costs of these complicated pregnancies to mothers, children, families, the health care system, and society as a whole are high.

Nearly all physicians have an opportunity to affect this serious epidemic. Primary care physicians can take advantage of routine gynecologic examinations, prepregnancy visits, and other office visits to provide information and counseling regarding the effects of substance use. Specialists who care for women may actually be treating secondary effects of substance use. For example, substance abuse is associated with an increased number of emergency department visits related to accidents and violence. Substance users may present with respiratory or gastrointestinal complications or with complaints of physical pain or stress-related illnesses. Encounters in these settings may also offer valuable opportunities for counseling.

In the ambulatory setting, a screening interview should always be done, accompanied by urine toxicology screens when indicated. The screens may require informed consent, depending on regulations. The effectiveness of the screening interview is enhanced when done within the context of a functional physician-patient relationship. Such a relationship can be quickly established, in most settings, given most patients' inherent desire to trust their physician. This foundation can be built on by expressing empathy, respect, and a desire to work with the patient toward achieving the best result. The subject of substance use or abuse is best addressed when discussing nutrition, exercise, and other patient-controlled health issues. The discussion should begin with prescription drugs and proceed through nonprescription drugs, caffeine, tobacco, alcohol, and illicit drugs. If the use of any substance needs further evaluation, the CAGE questionnaire for alcohol and other drugs or, for alcohol in pregnancy, the T-ACE questionnaire is especially useful.

When substance use is discovered, the presentation of the diagnosis is important. The physician should provide facts about substance use and its effects ("scare tactics" can be extremely counterproductive) and explain the possible consequences of continued use. Any link between signs and symptoms noted and substance abuse should be explicitly stated. Allow the patient to describe her understanding of the problems and check her understanding of the information provided. Next, either a definite treatment plan or a referral should be made. If both the patient and the primary care physician agree that the substance use problem may be amenable to treatment, a treatment contract may be indicated. This requires both parties to develop and agree on a plan for decreasing or stopping the use of the substance of concern. The patient should agree to this plan in writing, and a follow-up appointment should be made. When referral to a specialist is necessary, making the process of compliance easy for the patient helps referral to be more effective.

Substance abuse problems associated with prescription drugs are not rare among women. These problems can be reduced with extra care when prescribing potentially addictive drugs. Assessment should be made of any personal and family history of current and past drug use. The physician should consider the risk for drug abuse interaction with other drugs or cross-tolerance. The prescription should be on a fixed schedule, in small quantities, and for short periods of time. The patient should be reevaluated at frequent intervals, and prescriptions should be alteration-proof. Finally, the physician should assess the patient for pregnancy status, counsel the patient regarding possible effects of the medications in pregnancy, and offer information or referral regarding contraception or obstetric care.

CAROL L. ARCHIE, MD
Los Angeles, California

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New Oral Contraceptive Progestogens

THE INTRODUCTION OF gestodene and desogestrel into the oral contraception pharmacopeia marks the first major change in many years. These high-potency 19-nortestosterone progestogens offer substantial benefits and high efficacy in both the monophasic and triphasic forms combined with ethinyl estradiol in the familiar 21- or 28-day cycle pattern.

Gestodene has 100% bioavailability, whereas desogestrel has 80% as it metabolizes to its active form, 3-keto-desogestrel. They are related to levonorgestrel but have virtually no androgenicity and no estrogenic effects. Furthermore, they have no effect on glucose metabolism, which enhances their value for patients at risk for diabetes mellitus. A unique property of gestodene is the effect of binding to aldosterone receptors. This may displace aldosterone from mineralocorticoids and may result in a lowering of blood pressure in some hypertensive patients.

A slight elevation of total blood cholesterol levels may be induced, but this occurs through the beneficial elevation of high-density lipoproteins and a reduction of low-density lipoproteins. An increase in triglycerides has also been reported. The overall effects of gestodene-containing oral contraceptives on lipids and lipoproteins are not clinically significant, however.

Clinical trials and extensive European experience indicate a decreased incidence of intermenstrual bleeding and amenorrhea when compared with the use of currently available oral contraceptives. This superior cycle control enhances

patient compliance. Women who abandoned the use of these oral contraceptives in clinical trials primarily cited weight gain or headaches as an undesired effect. As with other available birth control pills, nausea and mood changes were also cited. A risk of breast cancer in oral contraceptive users remains inconclusive and a source of patients' concern. There is some tentative evidence that gestodene mimics the effects of tamoxifen and therefore may actually reduce the risks of both breast cancer and benign breast disease.

With efficacy matching other available products, the new oral contraceptives offer enhanced patient compliance through the reduction of undesired breakthrough bleeding and amenorrhea. Their metabolic neutrality offers safety that equals or possibly surpasses that of other available contraceptives. Thus, they provide a good first choice for patients and an alternative for women experiencing problems with currently available oral contraceptives. Patients doing well on current formulations should not switch without indication.

W. BENSON HARER, Jr, MD
San Bernardino, California

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Premenstrual Syndrome

PREMENSTRUAL PHYSICAL and emotional changes occur in as many as 80% of women of reproductive age. The most common symptoms include fatigue, depression, irritability, breast tenderness, swelling, and food cravings. Estimates regarding the prevalence of the premenstrual syndrome (PMS) generally agree that 20% to 40% of these women experience some difficulty as a result of these changes during the premenstrual time interval, and 2.5% to 5% report a notable effect on work or life-style.

The diagnosis of PMS depends on the exclusion of other coexisting medical disorders. Although its incidence in the general population is high, most women do not have this condition as a chief complaint. Of those who do present with PMS, coexisting medical and psychiatric disorders are observed with startling frequency. The most important aid to clinicians in the diagnosis of PMS is the use of a monthly symptom rating inventory. Such inventories should reveal a relatively symptom-free interval from cycle day 4 through cycle day 12 and at least a 30% higher symptoms score in the late luteal phase (last seven days of the cycle) as compared with the midfollicular phase (cycle days 3 through 9). At least 25% of women having PMS-like symptoms will have no such symptom-free interval, suggesting the need for further medical and psychiatric evaluation, particularly for affective disorder, panic disorder, and personality disorder. An ultrasensitive thyrotropin level should also be obtained to screen for thyroid disorder. The incidence of perimenopausal symptoms is also high in this population, and a serum follicle-stimulating hormone level may be helpful in establishing the latter diagnosis. A substantial number of women have PMS symptoms while taking oral contraceptives. In these women, the oral contraceptive drug should be discontinued and symptoms prospectively evaluated while they use barrier contraception.

In a substantial number of women, symptoms are not adequately controlled by exercise, the elimination of caffeine and chocolate, and diuretic therapy. Recent evidence provides strong support for the hypothesis that progesterone modulates central neurotransmitter activity within the opioidergic, serotonergic, and γ-aminobutyric acid (GABA)-ergic systems. The currently accepted hypothesis of PMS is that progesterone acting through these central neurotransmitter alterations causes the behavioral symptoms of PMS. At present, although there is no safe way to intervene directly into the opioidergic system, double-blind placebo-controlled studies have shown a pronounced reduction of PMS symptoms using the serotonin uptake inhibitor, fluoxetine hydrochloride, at a dose of 20 mg daily throughout the menstrual cycle. Similarly, several double-blind studies have shown marked benefit using alprazolam, a benzodiazepine that acts on the GABA-receptor complex, in doses of 0.25 mg four times a day during the last week of the menstrual cycle. The addiction potential of alprazolam mandates that it be reserved for reliable patients and restricted to the latter part of the menstrual cycle. Nonetheless, these therapies provide the first conclusively proven beneficial therapy for PMS.

At least three studies have shown the efficacy of long-acting gonadotropin-releasing hormone agonists in premenstrual syndrome. Until the problems of resultant osteoporosis are overcome, however, this agent must be limited to short-term use.

JOSEPH L. MORTOLA, MD
Boston, Massachusetts

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Therapeutic Options for Ectopic Pregnancy

THE ABILITY to detect ectopic pregnancies early with the aid of sensitive β-human chorionic gonadotropin (β-HCG) assays and intravaginal sonography has increased the options for treatment. Whereas exploratory laparotomy was once the standard, laparoscopic management and medical therapy are now used more frequently.

The goals of both laparoscopic and medical therapy are to treat before substantial tubal destruction has occurred and to eliminate the increased risk, discomfort, and longer hospital stays associated with laparotomy. With the use of intravaginal sonography, an intrauterine pregnancy should be detectable in a patient with a β-HCG value of 1,000 to 2,000 IU per liter (International Reference Preparation standard) or greater. The exact value for this "discriminatory zone" will be a function of the reference standard being used, the resolution of the ultrasound equipment, and the skill of the ultrasonographer. Serial values of β-HCG may be followed both to look for an appropriate rise of greater than 66% every 48 hours, suggesting a viable intrauterine pregnancy, and to reach the "discriminatory zone."

When an intrauterine pregnancy is excluded, laparoscopy can then be done to both diagnose and treat the ectopic pregnancy. A linear salpingostomy, segmental resection, or salpingectomy can be done safely through a laparoscope de-