EDITORIAL

Oral contraceptives today

In the late 1950's the pioneering works of dedicated scientists and researchers led to the first field trials of the hormonal steroids as oral contraceptives. Continuing excellent research in many countries have established the Pill as an extremely reliable, reversible and acceptable means of birth control. Some 200 million women in the world today have relied on/or are using the Pill for family planning. The Pill is second only to surgical sterilisation and the injectable method in effectiveness and offers in addition health benefits to the users.

During the 30 years of its use, the Pill has been implicated in a number of serious disorders, especially those associated with the cardiovascular system. Some doubts still exist however on the complete safety of these agents, although newer formulations with lower dosages and more selective progestogens, and greater care in prescribing have lessened the risks associated with the earlier preparations of the oral contraceptives. Recent analyses found no significant evidence of any overall effect of oral contraceptives on mortality. The Pill protects against ovarian and endometrial cancers but there is still controversy regarding a higher relative risk for cervical cancer and ischaemic heart disease, especially since a number of confounding factors affect the latter two conditions.[1,2,3] Hence management of oral pill users entails greater care from the medical practitioners.

The landmark British Royal College of General Practitioners' Study in 1969 demonstrated the significant relationship between the oestrogen content of the combined pill and thrombo-embolism, establishing the threshold dose for daily oestrogen at 75 mcg. Most pills today contain 30 mcg ethinyloestradiol (EE), further reduced from the 50 mcg formulations of the 70's decade. In combination with 150 mcg levonorgestrel (LNG) or desogestrel (DG) the monophasic formulations contain only 1.8% of the total steroid dosage of the original pill introduced in 1960. The triphasic formulations (30/40/30 EE and 50/75/125 LNG) and the most recent product launched containing 75 mcg gestodene (GN) in combination with 30 mcg EE brings the total dose per cycle even lower. There is evidence that bringing down the oestrogen dose even further, to 20 mcg ethinyloestradiol is possible with the progestogen desogestrel, while maintaining excellent efficacy and acceptability, and causing minimal influence on metabolic parameters and favourable effects on lipids.[4]

Epidemiological studies have demonstrated that low serum levels of HDL-cholesterol and high levels of LDL-cholesterol are associated with a higher incidence of cardiovascular disease. Oral contraceptives alter carbohydrate and lipoprotein metabolism, the magnitude depending on the dose and structure of the oestrogens and progestogens. It is therefore conceivable that pill use increases the risks to cardiovascular complications. Early results of a large-scale U.K. metabolic study released at the 12th World Congress of Obstetrics and Gynaecology (October 1989, Rio de Janeiro) showed desogestrel to have the least impact on carbohydrate metabolism and may even have potentially beneficial effects on lipoprotein levels, especially HDL-cholesterol. Similar results were obtained in a small study conducted in Hong Kong.[5] Oral contraceptives containing levonorgestrel cause the most disturbance on metabolic parameters, but other major studies confirm that it is associated with either a decrease or no change in the serum LDL-cholesterol. The clinical relevance of these lipid changes in the long term remains unclear and requires further epidemiological studies to be undertaken. On the other hand the mineralocorticoid action of the combined pills adversely affect the cardiovascular system through action via the renin-angiotensin-aldosterone system. Gestodene, the newest progestogen, has been shown to

have anti-mineralocorticoid effect, hence an advantage in pill use. The pharmacologic profile of this new progestogen continues to be evaluated in view of oestrogenic activities detected/ associated with its use.

Two large studies of use of the 30 mcg. oral contraceptive agents in regular use and risk of cardiovascular diseases found neither evidence of increased risk with longer use nor any trend with the amount of time since the last use.[3,6]

More recently, a comparative study of the effects of a monophasic and triphasic oral contraceptive containing EE and LNG in Singapore concluded that while some minimal changes are noted in both lipid and lipoprotein metabolism, especially in the first three months of use, these changes do not appear to be of clinical significance.[7] Nevertheless it is advisable to prescribe the lowest dose of effective preparation available and carefully screen those with risk factors to cardiovascular disease such as age over 45 years, smoking, hypertension and diabetes.

The possible association between oral contraceptive use and (hormone-dependent) reproductive and breast cancers has been an area of concern. Reports of various studies provide evidence that oral contraceptives actually protect against endometrial and ovarian cancers. Most studies so far have shown no overall risk of women on oral contraceptives developing breast cancer. Recently however, a few studies have suggested an increased risk of breast cancer for long-term users of oral contraceptives in early reproductive life. Risk factors identified include those who started menstruation before age 13, used the pill before a first-term pregnancy or used them for eight years or more.[8]

These findings are contrary to the findings of two major studies in 1988 and 1989 which found no association.[9,10] Due to these conflicting results further evaluation is therefore awaited, especially data on low dose pills before changes to the current prescription protocol for oral pills are made. Meanwhile due consideration should be exercised for those women with risk factors to breast cancer such as early age at menarche, nulliparity, a history of benign breast disease and family history of breast cancer.

The many benefits of combined oral contraceptives should be duly acknowledged. Quality of life of users is enhanced through a moderation in the incidence or severity of dysmenorrhoea, menorrhagia, irregular periods, pelvic inflammatory disease, rheumatoid arthritis, acne, benign breast disease and functional ovarian cysts. Indeed morbidity and mortality associated with endometrial and ovarian cancers are significantly reduced through the protective effects of the pills on these cancers. It is important therefore that all medical practitioners remind themselves from time to time about these benefits and use this information in the proper assessment of pill users just as they continually monitor them for safety.

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