GENERAL OVERVIEW OF ABORTIFACIENT CONTRACEPTION

The following fact sheets are designed to give information about methods of contraception which are or may be abortifacient. This implies a definition of pregnancy beginning at fertilisation. Any method of birth control which interrupts the development of the zygote/embryo/foetus after this time is described here as being abortifacient.

It is not possible to be absolutely certain about the mode of action of the non barrier contraceptives in a particular individual at any given time. In the case of hormonal contraceptives, there can be substantial differences in blood levels, not only between different women but also in the same woman from time to time. This usually means that a combination of effects is responsible for the contraceptive action of hormonal methods.

In the fact sheets which follow, information is presented which outlines the likeliest modes of action of these various forms of contraception. The following methods of contraception are examined for their abortifacient characteristics.

1a The combined pill

1b The progesterone only pill

1c Injectable contraceptives (Depo-Provera)

1d Subdermal Implants (Implanon)

1e Contraceptive patches

2 The Intrauterine Device (IUD) and the Intrauterine System (IUS)

3 Postcoital contraception (Levonelle-2)

With regard to the hormonal methods (1a – 1e) there are three main modes of action applicable: prevention of ovulation, changes in cervical mucous altering sperm penetrability and changes in the endometrium affecting receptivity to the blastocyst. The relative importance of each mechanism is described for each class of contraceptive.

THE COMBINED PILL

Physiology and Mode of Action

The combined pill is so called because it is a combination of the two female sex steroid hormones oestrogen and progesterone. This may be in a fixed combination during the 21 days of pill taking, or in varying proportions as in so called 'Triphasic' preparations. There are nearly thirty different brands of combined pill. With one exception, they all contain the same type of oestrogen (ethinyloestradiol), and any one of five types of progesterone which vary in their metabolic effects.

The main mode of action of all combined pills is suppression of ovulation. A number of studies have shown that the degree of pituitary-ovarian suppression varies among women using combined pills and that there is some cycle to cycle variation in the same woman. In a comparison[1] of the effect of seven low dose COC's (combined oral contraceptives) on ovarian function as assessed by ultrasound examination of the ovary and serum oestrogen and progesterone concentrations, complete absence of follicular growth was found by ultrasound in only 40% of treated cycles and in about 30% of cycles, follicles of pre-ovulatory size were detected. However, progesterone levels were raised above follicular phase concentrations in only 10% of cycles and in only 3% were luteal phase concentrations reached. Ovarian activity was significantly less in women using combined pills containing the progesterones Desogestrel or Gestodene, than with most of the other COC's investigated.[2,3] although there is no doubt that breakthrough ovulation can occur with low dose COC's.[3]

In another study looking at low dose COC's a breakthrough ovulation rate of 5.2% was estimated for Trinordiol.[4] Another study comparing ovulation rates in women taking three different types of combined pill (the equivalents of Brevinor, Trinovum and Norimin) showed ovulation rates of 3.0, 1.7 and 0.0 per 100 cycles.[5] The time during which ovarian activity is most likely to resume is during the pill free interval. It should be remembered that pregnancy rates outside of study conditions are much higher and that there can be a pregnancy rate of anything from 0.1 per 100 women years to seven per hundred women years in the first year of pill use.[6]

THE PILL FREE INTERVAL. It is customary to follow the 21 days of pill taking with a 7 day 'break'. A withdrawal bleed ensues, which provides many women with reassurance that 'all is normal'. The withdrawal bleed is the response of the endometrium to the withdrawal of the hormones and does not reflect ovarian function. However, ovarian follicular activity resumes during the PFI, with rising endogenous oestradiol demonstrable at the end of the pill free interval. Tayob et al found significant follicular activity in 23% of women examined by pelvic ultrasound scans on the 7th pill free day. Killick[7] confirmed that an extended PFI leads to further follicular development and that the developing follicles respond to gonadotrophin stimulation in spite of restarting of the pill. He doubted the clinical significance of the findings but

acknowledged that wide individual variation may put some women at risk of ovulation.

In addition to inhibition of ovulation the combined OC's probably exert their antifertility effect by other mechanisms.[4]

Our study supports the findings of others that suppression of follicular development is incomplete with contemporary low dose pills.[5]

The primary mechanism of action of combined oestrogen/progestogen preparations is ovarian suppression...This action is complemented by two other effects; a net progestogenic effect on cervical mucous...and endometrial suppression discouraging implantation. These complementary mechanisms of action take an important supplementary contraceptive role in rare cases where breakthrough ovulation may have occurred.[8]

COC's operate by a combination of direct and indirect effects at ovarian, endometrial and cervical levels....The receptivity of endometrium to the blastocyst is also reduced..[9]

This oestrogen-progestogen combination acts by inhibiting ovulation by suppression of the mid-cycle surge of luteinising hormone, the inspissation of cervical mucus so as to constitute a barrier to sperm, and the rendering of the endometrium unreceptive to implantation[10]

Hartford: 'Why then is there so much misinformation even from Christian physicians, the clergy and others about these crucial matters?'

Hilgers: ' I must say that a large amount of it comes from the physicians themselves. Physicians, for the most part, have simply denied that these devices are abortive. With regard to the birth control pill for example, they will argue that most of the time they act as contraceptives which is probably true. But at the same time they deny that at least some of the time they are clearly abortive. This denial has become a part of their practice to the extent where it is no longer a part of their ethical sensitivity. When talking to women about any of these devices and chemicals their presentation avoids telling the patient about the possibility that they might be abortive. So the physicians in order to justify their own practices have kept this information from people.[11]

Despite high efficacy, OC's do not completely inhibit ovarian follicle development.[12]

How does the pill work?
The main way the pill works is to stop the ovaries from releasing an egg each month (ovulation)… It makes the lining of your womb thinner so it is less likely to accept a fertilised egg.[13]

COMMENTARY

The study quoted at reference 4 did not mention the obvious conclusion. Oral contraceptives as currently taken with a pill free interval of seven days may be abortifacient even under ideal study conditions let alone all the variable conditions in real life use. Women frequently forget to take the pill and two or three times as many pills are forgotten as are actually reported in trials.[14] Ovulation rates vary from pill to pill, from one woman to another and from time to time in the same woman taking the same pill. Any lengthening of the PFI, through missing pills from the end of a packet or not starting the next packet on time may result in breakthrough ovulation. Pills containing the newer progestogens desogestrel and Gestodene e.g. Marvelon, Mercilon, Femodene and Minulet have low breakthrough ovulation rates. Shortening of the pill free interval to four or five days will make the possibility of ovulation. small. Abolishing the pill free interval completely by taking the next packet without a break will effectively guarantee no breakthrough ovulation. As currently prescribed and taken however, there is a chance of breakthrough ovulation occurring towards the end of the seven day pill free interval with some combined pills.

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THE PROGESTERONE ONLY PILL

Physiology and mode of action

This type of oral contraceptive contains one of four kinds of progesterone The pill is taken continuously i.e. there is no 'pill free interval.' Like the combined pill, the POP exerts its contraceptive action at various levels[1]. According to Guillebaud[2] in individual women, or in the same woman in different menstrual cycles, the effects vary. There is a spectrum running from no interference with the ovarian cycle through to complete quiescence of the ovaries and no follicular or ovarian activity. In an earlier Swedish study[3] four groups were identified.

1 Cycles showing almost no change from normal with apparently normal ovulation, minimal shortening of the luteal phase and progesterone levels within normal limits (40%).

2 Normal follicular phase but marked shortening of the luteal phase, with lower progesterone levels for a shorter time (21%).

3 Follicular activity with higher peak oestrogen levels than usual; but no ovulation and no progesterone production. Ultrasound scans of the ovaries in these women show the formation of abnormal follicles or functional cysts (23%).

4 Diminished follicular activity, low oestrogen levels, no corpus luteum formation and no endogenous progesterone production. Ultrasound scanning confirms quiescent ovaries.

As well as varying effects on ovarian function there are effects on cervical mucous and on the endometrium. There is the same enormous variation between women who are apparently similar, taking the same POP and having their blood levels estimated at the same time after their last tablet was ingested. The contraceptive effect of the POP on cervical mucous is maximal about four hours after taking the tablet and lasts for about 24 hours. The overall effect is to reduce sperm penetration. The mucous will revert to normal if the woman delays taking her next pill by only a few hours.

A detailed study of the structure of the endometrium was carried out in women taking 300mcg of Norethisterone.[4] Only a minority of the subjects showed a normal secretory endometrium. A newer progesterone only pill containing desogestrel (Cerazette) is much more efficient at suppressing ovulation. In one study comparing desogestrel to levonorgestrel there was one ovulation observed in 59 cycles of Cerazette (1.7%) compared with 16 out of 57 cycles in women on levonorgestrel.[5]

(Cerazette) When studied for 2 cycles, using a definition of ovulation as a progesterone level greater than 16 nmol/L for 5 consecutive days, the ovulation incidence was found to be 1 % (1/103)[6]

With POP's the inhibition of ovulation varies for different preparations.[7]

. The progestogen causes the lining of the womb (the endometrium) to become thinner, which decreases the likelihood of a fertilised egg implanting.[8]

Conception means to become pregnant. Fertilization occurs when a sperm fuses with an ovum; and when this occurs conception takes place.[9]

COMMENTARY

Apart from Cerazette the likelihood of breakthrough ovulation is much greater with the POP than with the combined pill. Nevertheless, pregnancy rates in women taking POP's are not that much higher. This means that there is increased relative importance of the cervical mucous effect and the endometrial effect. It is therefore likely that some of the time the POP acts as an abortifacient. It is impossible to know when and in which women this may occur. Prescribing and taking this pill therefore involves significant risk that one is inducing an early abortion.

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INJECTABLE CONTRACEPTIVES

Physiology and Mode of Action

Depo-Provera is the only long-term licensed injectable progesterone in the UK. Its main mode of action is suppression of ovulation with effects also on cervical mucous and the endometrium.[1] According to one study, after a single injection of 150 mg of DMPA, ovulation does not return for at least 14 weeks.[2] It is therefore one of the most effective forms of hormonal contraception with pregnancy rates between 0.1 and 0.7 per 100 women per year. In one study which reported in 1986 no pregnancies were reported among 607 women (452 women years) using the usual regimen of 150 mg every three months.[3]

After the injection, levels of this progesterone are high and steadily decline over the following weeks as hormone leaks into the circulation from the injection site. There is some individual variation in blood levels as for oral contraception but this is not as marked. Levels of drug decline more rapidly in thin women and pregnancy rates are therefore higher in young, fertile, underweight women. In a three year study in Thailand between 1984 and 1987 - to assess the effect of Depo-Provera on fetal growth when pregnancy occurred despite use of the drug, - there were 830 pregnancies and an increased risk of low birth weight.[4]
Depo-Provera also has a marked effect on the endometrium. Within two days of administration, proliferation of the endometrium is inhibited and after thirty days becomes thin and atrophic. There are also changes affecting cervical mucous.

Although breakthrough ovulation is uncommon when drug levels are very high, ovulation and accidental pregnancies have been reported with moderate blood levels.[4]

The immediate action of progestagen-only injectables (POIs) is to thicken cervical mucus, which then presents an obstacle to sperm penetration. Also, ovulation is impaired. There are additional changes in the endometrium that make it unfavourable to implantation.[5]

How do contraceptive injections work?

They stop your ovaries releasing an egg each month (ovulation).

They also make the lining of your womb thinner so it is less likely to accept a fertilised egg.[6]

Both DMPA and NET-EN prevent pregnancy by the inhibition of ovulation and thickening the cervical mucus, thereby presenting a barrier for sperm penetration. In addition, changes to the endometrium make it an unfavourable environment for implantation.[7]

COMMENTARY

In some studies there have been small numbers of surprise pregnancies in women using Depo-Provera, indicating return of ovulation towards the end of the three month gap between doses. It is therefore possible that in a minority of cases the drug may act as an abortifacient. As explained previously this would be more likely to occur in thinner women who process the drug quicker than overweight women. Nevertheless it looks as if the risk of this drug acting as an abortifacient is low.

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IMPLANON.

Physiology and Mode of Action

Implanon is a single rod which is inserted under the skin to release progesterone slowly into the circulation.[1] The level of progesterone (desogestrel) peaks within a few days after insertion and then gradually falls with time. Ovulation is inhibited due to suppression of the LH surge from the pituitary gland and in addition there are changes in the cervical mucous and the endometrium. In one study two out of seven women with Implanon devices ovulated after 30 months and again after 33 months.[2] In another study no ovulation was observed in 62 women in the first year of study or in 54 women in the second year of study. Ovulation occurred in 4 of 131 cycles (3.1%) in 46 women in the third year.[3] The device is normally removed after three years.

How does an implant work?

The main way it works is to stop your ovaries releasing an egg each month (ovulation). It also thickens the mucus from your cervix; makes the lining of your womb thinner so it is less likely to accept a fertilised egg. [4]

COMMENTARY

Only a small percentage of women use the Implanon device in the U.K. The device is very effective as a contraceptive. Several clinical trials have reported no pregnancies up to three years after insertion, although pregnancies have been reported outside of clinical trials.[5]

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THE CONTRACEPTIVE PATCH (EVRA).

The contraceptive patch EVRA is the first contraceptive available as a skin patch. It is applied for seven days before a replacement is used. Then after three weeks of patches a 'patch free interval' of seven days occurs before the next one is used. Its mode of action and effectiveness is similar to the combined pill[1] but is much less commonly prescribed because of its expense. In typical use of the patch the pregnancy rate was 0.88%.[2]

How does the patch work?

The patch releases a daily dose of hormones through the skin, into the bloodstream. It works in the same way as the combined pill. The main way it works is to stop the ovaries from releasing an egg each month (ovulation). It also: thickens the mucus from your cervix; makes the lining of the womb thinner so it is less likely to accept a fertilised egg.[3]

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THE IUD (INTRAUTERINE DEVICE) AND THE IUS (INTRAUTERINE SYSTEM)

Physiology and mode of action : The IUD

The intrauterine device or 'coil' has undergone progressive modification over the years. The two most effective devices are those known as the Copper 380 and Copper 375. These figures refer to the surface area - 380 mm and 375 mm^2 - of copper on each device.

There is no doubt that the IUD has a marked effect on the endometrium.[1] According to Guillebaud, 'blastocysts have however been flushed from the cavities of other users, showing that the implantation blocking effect is a back-up contraceptive mechanism.'[2] In addition, IUD's are used postcoitally, up to five days after ovulation in so called 'emergency contraception.' When used for this purpose they are invariably effective and clearly work in this instance by preventing implantation. Copper containing IUD's have been shown to have a direct toxic effect on embryos.[3] Pregnancy rates in long term users are also low, in the order of 0.3 per 100 woman-years each year for the first five years of use falling to 0.1 per 100 women per year in years six to eight.

There seems to be a body of evidence which does suggest a mode of action involving destruction of sperm by white cells prior to fertilisation, along with diminished sperm transport. This is due to the effect of the IUD on the local uterine environment. There is therefore evidence of a variety of mechanisms by which the IUD works as a contraceptive. There does not seem to be any doubt however that the IUD is abortifacient some of the time even though precise figures are difficult to obtain.

Physiology and Mode of Action: The IUS

This device was released on to the UK market in 1995. Known as Mirena it consists of a plastic T-shaped frame with a hormone reservoir around the vertical stem. The reservoir contains Levonorgestrel and is covered by a membrane. The hormone is released slowly into the uterine cavity. The mechanism of action *primarily* involves prevention of endometrial proliferation.[4,5] Changes in cervical mucous may affect the passage of sperm but this was not consistently observed.[6] Suppression of ovulation in some women in some months can occur - usually early in use. Most women continue to ovulate and the average levels of progesterone in the circulation are less than half the levels with the POP.[7] Pregnancy rates are low - around 0.14 per 100 woman-years.There are marked individual differences in the blood levels of Levonorgestrel but after the first year most cycles are ovulatory.

The results provide unequivocal evidence of modification in the composition of endometrial secretions and are consistent with a decrease in secretory activity.[1]

In women the alterations of the endometrial environment cause by IUD's are so pronounced that the viability of an embryo in the uterus will be seriously impaired; therefore it seems reasonable to assume that an embryo reaching such an environment will be lost before, during or soon after implantation.[3]

Some authors detected transient rises of HCG suggestive of early embryonic loss in a high proportion of IUD users, which would support the idea that intrauterine devices interfere with implantation and establishment of pregnancy.[3]

From these data we may conclude that despite the presence of an IUD, spermatozoa can migrate to the fallopian tubes but are less likely to reach the normal site of fertilisation in the same number as in control women.[3]

The principle mode of the LNG-20 IUD's contraceptive mechanism is as follows: to (a) make the endometrium unsuitable for implantation; and /or (b) affect the blastocyst's development by sensitising the endometrium to ovarian oestrogen via the oestrogen receptor.[5]

The fact that the mean maximum score for the sperm penetration test in the LNG-IUD users with type D cycles was similar to the Nova-T users suggests that a direct effect on cervical mucous secretion cannot be the main mechanism of action at least in these cycles studied.[6]

The intrauterine administration of levonorgestrel had only an occasional and weak effect on ovarian function.[7]

*How does an IUD work?**The main way an IUD works is to stop sperm reaching an egg. It does this by preventing sperm from surviving in the cervix, womb or fallopian tube. It may also work by stopping a fertilised egg from implanting in the womb.***[8]

*How does an IUS work? It makes the lining of your womb thinner so it is less likely to accept a fertilised egg. In some **women it stops the ovaries releasing an egg (ovulation), but most women who use an IUS ovulate.***[9]

The contraceptive effects of the LNG-IUS are mediated via its progestogenic effect on the endometrium. High intrauterine levels of LNG lead to functional and histological changes within the endometrium, preventing implantation.[10]

COMMENTARY

Both the IUD and the IUS are abortifacient. They both have marked effects on the endometrium thereby inhibiting implantation of the developing zygote. They also exert effects on sperm transport and the IUS has an effect on cervical mucous. The studies which have been quoted by WHO purporting to show that the IUD is not abortifacient show the opposite - unless of course pregnancy is defined as beginning after implantation has occurred.

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POST-COITAL CONTRACEPTION

Physiology and Mode of Action: Levonelle-2

Known otherwise as 'the morning after pill' or 'emergency contraception' this method involves taking two tablets of Levonorgestrel 750mcg. as soon as possible after intercourse and within 72 hours to maximise the chances of pregnancy interference.[1] This regime has replaced 'PC4' owing to fewer side effects and greater effectiveness. The total dosage of progesterone is therefore 1.5mg which is the equivalent of fifty tablets of the progesterone only pill. The means by which this regime works depends to an extent when the tablets are administered in relation to ovulation. If this was early in the woman's cycle, it is possible that it could prevent or at least delay ovulation. If the pills are given after ovulation has occurred, their action in the event of fertilisation occurring could be to block implantation and would therefore be abortifacient. Pregnancy rates vary according to how soon after intercourse it is taken. The longer the delay, the greater the chance of pregnancy (assuming ovulation has occurred). The continuing pregnancy rate in the WHO study with single dose (1.5mg of Levonorgestrel) was 1.47%.[1]

How does the emergency pill work?
The emergency pill is most likely to: stop an egg being released (ovulation); delay ovulation. It may also stop a fertilised egg settling in your womb (implanting).[2]

It may stop a fertilised egg from attaching itself to the lining of the womb[3]

One cannot prevent what has already occurred, and therefore use of the term emergency contraception for early abortion is erroneous.[4]

Where is the positive evidence that levonorgestrel does not work after implantation and affect an established pregnancy?[5]

We suggest that LNG acts as an emergency contraceptive by other mechanisms as well as delaying the LH surge and interfering with ovulation.[6]

COMMENTARY

Levonorgestrel (Levonelle) is an abortifacient. Even the manufacturers admit this in their drug information summary.[3] There has been considerable effort expended to hide the abortifacient nature of Levonelle in recent years by adopting such terms as 'emergency contraception.' This is designed to make the substance more acceptable to the general public as well as to avoid the implication that the drug should be considered to be illegal in the UK under the 1861 Offences Against The Person act.[7]

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CONCLUSIONS

The Viennese psychiatrist and concentration camp survivor Viktor Frankl once observed that man has an infinite capacity to deceive himself. It has also been said that mankind cannot bear too much reality. Nowhere is this more so than in the realm of abortifacient contraception. In order to improve the acceptability of abortifacient contraceptives there has been a redefinition of the beginning of pregnancy. This has been a political manoeuvre which has nothing to do with science.

A good example is the debate about whether or not IUD's are abortifacient. In 1987 the World Health Organisation stated that IUD's work primarily by preventing fertilisation. The WHO said 'this statement may go a long way toward answering certain philosophical or religious concerns as to the mode of action of this method of contraception.' This was countered by a statement from the World Federation of Doctors Who Respect Human Life who clearly believed that WHO were worried about the IUD's abortifacient image and were trying to downplay that in order to ensure its greater acceptability in certain third world countries.

For a full explanation of the process of redefining the meaning of the word 'conception' see chapter twelve (Old lies and new labels: when contraception is abortion) in the excellent book by Marshall and Donovan.[2] The authors trace the process from the early 1950's when abortion advocates such as IPPF realised that much of the developing birth control technology would be unacceptable to large groups of people. The abortifacient nature of the drugs and devices was seen as a hindrance to public acceptance and so words such as conception, abortion and even human being had their meaning changed. Dr. Abraham Stone at an IPPF conference in 1952 in Bombay acknowledged that 'the mechanical and chemical methods currently employed, or any biologic method that would prevent ovulation or fertilisation merely prevent life from beginning...Measures designed to prevent implantation fall into a different category. Here there is a question of destroying a life already begun.'[3] A change in terminology was needed to blur the difference between fertility control methods which prevented ovulation, fertilisation or implantation.

Redefining reproductive terminology was a particular interest of population control enthusiasts. At a 1959 Planned Parenthood - Population Council symposium, Bent Boving a Swedish fertility researcher summarised the approach: 'Whether eventual control of implantation can be reserved, the social advantage of being considered to prevent conception rather than to destroy an established pregnancy could depend on something so simple as a prudent habit of speech.[4] A proposal about how to effect this 'prudent habit of speech' was put to an international symposium in 1964 by Dr. Christopher Tietze. 'If a medical consensus develops and is maintained that pregnancy, and therefore life begins at implantation, eventually our brethren from the other faculties will listen.'[5] A year later the American College of Obstetrics and Gynaecology with the publication of its first Terminology Bulletin capitulated to

the prevailing trends and declared, 'Conception is the implantation of a fertilised ovum.'[6]

The second facet of IPPF's redefinition of the beginning of life involves the assertion that no one really knows when human life begins anyway. It could be described as the 'ignorance is bliss' position. An example would be the American College of Obstetricians and Gynaecologists' 1990 'white paper.' It states, 'When life begins cannot be tested by scientific method, but instead depends on each individual's beliefs and values.'[7] This position was condemned in the pages of the Journal of the American Medical Association as long ago as 1887.[8] This flexible definition of the beginning of life where the goalposts can be moved at whim is deliberate. When pregnancy is discussed in a neutral context, fertilisation is the starting point, but when the acceptability of something like the postcoital pill is at stake as occurred in the U.K. in 1983, or the denying of the IUD's abortifacient properties as WHO did in 1987, the rules change.

Christians have been deceived and many Christian doctors have accepted the 'New Medicine' in order to accommodate to new social values and norms.[9] There has been a cover up and few women taking or using these drugs or devices have a clear idea of their true properties. Scripture makes it plain that there is a difference in culpability between intentional and unintentional killing but that does not mean that unintentional killing should be considered to be a light offence. The books of Exodus, Leviticus, Numbers, Deuteronomy and Judges give a detailed perspective on unintentional killing. The taking of life, even unintentionally is a serious thing. Making the destruction of human life more efficient and more discreet does not make it more ethical.[1]

Furthermore, when a Christian doctor prescribes an abortifacient contraceptive, he or she has no idea whether in this particular case the drug will act as an abortifacent or not. Even if their intention is for it not to act as an abortifacient, they have no means of ensuring that it will not. The acceptance of chemical abortion through contraception has made it harder to resist surgical abortion. Malcolm Potts, former medical director of IPPF said in 1973, 'As people turn to contraception there will be a rise, not a fall in the abortion rate.' The rise in the abortion rate not only includes surgical abortion, but also the silent chemical abortions caused by hormonal contraceptives. Christian doctors are particularly responsible to inform women about the true nature of these chemicals. Human life is not something which we can afford to devalue, even if unintentionally.

This fallacious idea that there is no life until quickening takes place has been the foundation of , and formed the basis of , and has been the excuse to ease or appease the guilty conscience which has led to the destruction of thousands of human lives.[8]

However, in practice, many of those who felt life had full value from fertilisation used methods of contraception which may work by preventing implantation of the fertilised ovum.[9]

If it turns out that these intrauterine devices operate as abortifacients, not only the Catholic Church will be against them but Protestant churches as well.[10]

...suppose one (patient) does develop an intrauterine infection and suppose she does end up with a hysterectomy and bilateral salpingo-oophorectomy. How serious is that for the particular patient and for the population of the world in general? Not very. Perhaps we have to stop thinking in terms of individual patients and change our direction a bit...Again, if we look at this from an overall long-range view (these are things I have never said out loud before and I don't know how it is going to sound) perhaps the individual patient is expendable in the general scheme of things, particularly if the infection she acquires is sterilising but not lethal.[10]

1 Mirkes R. The oral contraceptive pill and the principle of double effect. Ethics and Medicine 2002;18(2):11-22.

2 **Marshall R, Donovan C. Blessed are the barren. The social policy of Planned Parenthood. San Francisco, Ignatius Press 1991.**

3 Ibid. p 291.

4 Ibid. p 292.

5 Ibid. p 293.

6 Ibid. p.293

7 Ibid. p 296

8 Quimby IM. Introduction to Medical Jurisprudence. JAMA 1887; 9:164.

9 Newsletter of the Christian Medical Fellowship Oct.1995. 137; 2.

10 Calderone M. Intrauterine Contraceptive Devices: Proceedings of the conference April 30 - May1 1962. New York City, ed. Christoper Tietze and Sarah Lewit. Excerpta Medica 110.

GLOSSARY OF TERMS. This is for reference purposes only. It includes several technical terms included in the fact sheets. Not all of the terms are essential knowledge.

Amenorrhoea. Failure of menstruation.

Blastocyst. The unique mass of dividing, differentiating cells which implants into the endometrium approximately seven days after fertilisation.

Brevinor. A combined pill marketed in the UK by Searle.

COC's. Combined oral contraceptives

Corpus Luteum. Following ovulation the walls of the follicle collapse and the remaining cells are thrown into folds. These cells are stimulated by Luteinising Hormone and collectively known as the Corpus Luteum. The Corpus Luteum enlarges for about ten days under the influence of LH. It produces Progesterone which cause glandular development in the endometrium ready for the blastocyst. If fertilisation does not occur it regresses. If fertilisation does occur it has an important role in the maintenance of pregnancy.

Endometrium. The lining of the womb.

Embryo. The developing preborn child up to eight weeks after fertilisation.

Ethinyl Oestradiol.(EE2) The oestrogenic hormone used in the combined pill.

Ethynodiol Diacetate. A progestogen used in both combined and progestogen only pills. It is converted (90%) into Norethisterone.

Foetus. The developing unborn child from eight weeks after fertilisation.

Follicle stimulating hormone (FSH). See under Gonadotrophins.

Gonadotrophins. The hormones produced by the pituitary gland which affect the ovaries. FSH helps to develop the follicle each month and increases ovarian oestrogen production. LH induces ovulation and initiates and - for a few days - maintains the Corpus Luteum.

HCG. Human Chorionic Gonadotrophin. This hormone is produced by the Trophoblast from its earliest days and can be detected in urine after seven days of implantation i.e. about the time of the first missed period. This is the basis for pregnancy tests. HCG maintains the Corpus Luteum in its function of producing enough oestrogen and progesterone until the placenta has developed sufficiently to take over production.

Inspissation. Drying up.

IPPF. The International Planned Parenthood Federation. A non governmental organisation promoting population control, abortion and eugenics world wide.

Levonorgestrel. A progestogen used in both combined and progestogen only pills.

Luteinising Hormone (LH). See under Gonadotrophins.

Norethisterone. A progestogen used in both combined and progestogen only pills.

Noriday. A progestogen only pill marketed in the UK by Searle.

Norimin. A combined pill marketed in the UK by Searle.

Oestrogen. The hormone responsible for proliferation of the endometrium in the first half of the cycle (the follicular phase).

Oestradiol. The most commonly used oestrogenic hormone in the combined pill.

Progesterone. The hormone which helps to develop the endometrium in the second half of the cycle (the secretory phase) to receive and nourish the blastocyst.

Progestin. Progesterone like.

Progestogens. Artificial progesterone like compounds.

Population Council. A private American institution founded and financed by John D. Rockefeller III to promote population control.

Salpingo-Oophorectomy. Removal of the fallopian tubes and ovaries.

Subdermal. Under the skin.

Sonographic. Relating to the use of Ultrasound.

Trinovum. A contraceptive pill known as a triphasic pill in which the dose of hormones is different in three distinct phases. In the case of Trinovum the regime is seven days of Ethinyl Oestradiol 35 mcg.combined with 0.5 mg. of Norethisterone; then another seven days of EE2 35 mcg. combined with 0.75 mg. of Norithesterone; then a final phase of seven days of EE2 35mcg. with 1 mg. of Norethisterone.

Trophoblast. The outer layer of cells in the Blastocyst which break down the endometrium and facilitates nourishment of the developing embryo.

Woman years. A statistical concept which is used to measure the frequency of an event occurring amongst fertile women. For example 'breakthrough' pregnancy rates with contraceptives are described as the number of pregnancies per 100 woman years. This means the number of pregnancies per 100 women per year using a particular contraceptive. This assumes that all the women are fertile and having regular intercourse.

Zygote. The single cell individual formed after union of the sperm with the ovum.

BIBLIOGRAPHY AND RESOURCES

Grand Illusions: the legacy of Planned Parenthood by George Grant. Nashville, Tennessee, Cumberland House Publishing Inc. 2000.
This book traces the history of the birth control movement and identifies the main ideas and their sponsors which have contributed to the contraceptive culture. '*Thoroughly researched, carefully written, and comprehensively documented, "Grand Illusions" has already made its mark as the single best-selling volume of all time on Planned Parenthood's role in the controversial matters of abortion and sex education. No other book has so thoroughly surveyed the divisive issues, dominating personalities, legal and judicial precedents, educational and political initiatives, social consequences, and global impact of this organization and the great debates it has engendered worldwide'* (from the publisher).

Blessed are the Barren by Robert Marshall and Charles Donovan. San Francisco, Ignatius press 1991 (370 pages).
This book is a reference work on the institutionalisation of birth control and abortion: the lies, the corruption and the altogether vehement anti-Christian nature of the population control movement. The writers of the preface and foreword describe it as 'a sickening book' and as 'an encyclopaedic, monumental work.' It contains valuable information on many social areas related to abortion and contraception.

Love your Unborn Neighbour published by SPUC 1994. (176 pages)
There is a particularly good chapter entitled 'Abortion and the Doctors' which mentions abortifacient contraceptives.

Contraception your questions answered by John Guillebaud.
Edinburgh, Churchill-Livingstone, 4th edition 2004 (582 pages).
This book is written by an enthusiast for population control. It does, however contain much information about contraceptives including their abortifacient properties.

The morning-after pill by John Ling. Published by The Christian Institute 2007. In this book John Ling takes a detailed look at the history, pharmacology, social consequences and ethics of post-coital contraception. The book is downloadable at http://www.christian.org.uk/html-publications/pub_medethics.htm

Pharmacists for Life International.
http://www.pfli.org/main.php?pfli=scholarlypapers