

SOME SEQUELAE OF ORAL CONTRACEPTION

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THE subject we are going to talk about is something you eat, or rather not "you eat" but "they eat". So well is it eaten that it has put Charles Lamb's "Origin of Roast Pig" right off the map in terms of original foodstuff. Our subject is something which out-sells Aspirin. In fact, it has the biggest drug sale of them all for it is imbibed daily by no less than 13 million women.

It is the only commodity in the world, as far as I know, which is blessed by such a short name, which when used everybody knows exactly what it is, "THE Pill".

By way of introduction perhaps you would like to know how the pill works and what it is all about. All this is bound up with the female and her ability to produce eggs. A female is blessed with two ovaries, each of which has approximately 100,000 ova, or eggs, within it. She is destined to liberate only about 400 of these ova in her fertile lifetime. The remainder gradually atrophy and disappear, for nature in her bounty always overdoes it and provides us with plenty of spare parts.

Of these 400 eggs, one is liberated every month from the ovary and this occurs approximately mid-way between the menses, on the 14th day of the cycle. One ovum becomes mature and forms a follicle each month after puberty and before the menopause. The ovum, having been liberated from the ovary, begins its progress down to the uterus or womb. If it is fortunate enough to meet a male sperm on the way up, it is fertilized and a new individual is on the way. The remainder of the cells in the follicle stays in the ovary and forms another body which because it looks yellow is blessed with the name "corpus luteum" or yellow body. This strange and wonderful phenomenon is brought about monthly by a delicate balance of chemical substances which are liberated from the gland attached to the base of the brain which is known as the pituitary gland. The pituitary gland produces a substance which is called the follicular stimulating hormone, "F.S.H.", and it is this hormone which delicately picks out one

egg from the 200,000 each month. Why it selects one is not known, but only one comes up to standard. Under its action the selected ovum grows to form a mature follicle.

The other hormone produced from the pituitary is called the "yellow-making" or luteinising hormone, which acting on the follicle produces the corpus luteum. Nature has these two hormones delicately balanced so that neither is simultaneously present. When one arrives the other disappears, and in general each is present in the blood stream for approximately 14 days.

The follicle produces its own chemical in the form of the substance called oestrogen. Oestrogen is the magic of womanhood. It is the "it" hormone. It is the hormone which gives the female shape and form. It makes her desirable; it makes her what she is, and thank God for it. Oestrogen is the one thing that no home should be without. It has activities apart from bestowing her characteristics on the female. For example, it acts on the lining of the womb and stimulates growth which prepares the bed for the fertilized egg and adds nutriment to the soil to help the new seed grow into a tree. Oestrogen is the growth hormone of the uterus. It has another function, to antagonize the F.S.H. from the pituitary gland. It is the oestrogen appearing from the follicle which turns off the tap of F.S.H. on the 14th day, and by so doing, permits ovulation to occur and allows, incidentally, the luteinising hormone to appear. Here is one of the wonderful phenomena of nature. The same cells changed by the liberation of the egg are responsible for producing two completely different substances.

This new substance is called progesterone. Progesterone is the other side of womanhood. It is the "clucky" or "broody" hormone. In all women the finest balance of these two chemical substances, oestrogen on the one hand playing up the guiles, the wiles, the form, the beauty of womanhood, and progesterone, the soft cuddly, lovable little woman at home. The female spends her entire fertile existence in balance, and indeed, in dispute between these two chemical substances, and let us face it, that is the basis of her behaviour. If you happened to be worried about it before, this explains it all. You can see at what a nice time progesterone arrives, just when the egg is fertilized and motherhood is being prepared for. It also acts on the lining of the womb and it produces a secretion, the very nutriment or food to supply the growing embryo in its first hours of growth.

So, whilst oestrogen enhances the growth and preparation, progesterone enhances the cultivation. Progesterone has another

action. It antagonises the secretion of the L.H., thus the corpus luteum degenerates and at the end of 28 days ceases to exist; by so doing it stops the supply of progesterone. With all hormones turned off, menstruation follows because the stimulation is gone and if the egg has not been fertilized a new follicle arises and so the whole cycle begins again.

How does the pill work into all this chemistry? As the oestrogen rises it cuts off the supply of F.S.H., allowing the L.H. to appear, which, acting on the follicle, liberates the egg. Progesterone is then produced from the corpus luteum which antagonizes L.H. Ovulation therefore depends upon both F.S.H. and L.H. If we give any form of oestrogen or progesterone to the female at the wrong time in the cycle, the pituitary gland will be out of phase, the follicle chosen for stardom will never make it and liberation of the egg will not occur. The pill contains either progesterone or oestrogen or both. Progesterone and oestrogen have been well known for many years. We had to wait for the biochemists to find how to mass-produce them, because it was a hopeless proposition trying to use the naturally occurring hormones for the masses. The great turning point came when the biochemists learned to make progesterone-like and oestrogen-like substances commercially. Initially a nation-wide investigation was conducted in Puerto Rico. The pills were placed on stalls in the street for all to take; the plan had overwhelming success and the birth rate dropped precipitously in the first two years of the trial. At first a substance called "Enovid" was used. This is a chemical similar in action to the naturally occurring progesterone. It had one unfortunate side effect—the patients were kept in the "clucky" phase continuously. They found every day and every hour they had strong feelings of motherhood, and their *alter ego* never appeared.

No less than sixteen different compounds now flood the market and most of them are based on either progesterone or oestrogen. The manufacturers quickly found that to give progesterone alone was accompanied by too many side effects. The addition of just a smidgin of oestrogen to every pill made the participant feel a complete woman, with that keen balance restored to both sides of her nature. There is a chemical variation in Anovlar, Norethisterone, Provest, Volidan and Lyndiol or Noracyclin, but these substances are progestogen predominantly.

Sequens, Ovin and Serial 28 are oestrogen, to which a little

touch of progesterone has been added for the five days preceding the menstrual period to maintain the balance.

Is the pill effective as a contraceptive? Investigation has shown that the use of an intra-vaginal douche as a means of contraception has an average failure rate of ten pregnancies in one hundred woman years; the safe period—twenty-four; spermatocidal jellies—twenty; coitus interruptus—eighteen; rubber condoms—fourteen and a diaphragm with or without a jelly—twelve. The pill reduces it to 1.2 which is the human error from people who forget to take it. It is a perfect contraceptive, any fault being due to the human frailty of forgetfulness. None-the-less, the pill sometimes is abandoned due to a decision by the patient herself or to some unfavourable effects produced by the commodity. The best reason to abandon it is the desire to have a baby. Having taken the pill and then stopped, patients ask frequently—"Will it affect my fertility?" All evidence points against this, in fact some think the pill actually increases fertility; personally I do not think this is so.

Other reasons for giving up the pill are many and varied. Separation is a good reason and surgery is another one. Some husbands do not approve. Then there is the religious question on which I am in no position to comment. As we know, it is being argued at this moment in Rome.

There is no question that publicity is the best reason for a patient abandoning the pill. Because it is new and revolutionary scarcely a week passes without a report about brain haemorrhages, thromboses and so on complicating the use of the pill. The majority of these statements are false.

The pill itself does produce a few difficulties, and I will enumerate some of these. There is a large personal variation and although there is only a little difference in the structure of the numerous types, the body responds to little differences and what suits one person may not suit another. If the pill fails with one person (because of a side effect) it does not mean it will not succeed with another. One sometimes has to search through various brands before finding the ideal one to suit the "victim".

The commonest complaint is that they do not feel themselves. What they do feel (and do not know it) is a little bit pregnant. Nausea and vomiting form part of the general mild pregnancy syndrome, and women who complain of nausea and vomiting in pregnancy tend to do so when they are taking the pill.

Weight increase is an embarrassing effect. It is due to the

increased storage of water, a phenomenon which occurs in about fifteen per cent of women immediately before the menstrual period. This means they are sensitive to progesterone—and a change to a hormone of the oestrogen type, such as Sequens or Ovin may help to overcome this. Break-through bleeding and minor haemorrhages may occur during the menstrual cycle, as a direct result of taking the pill. It can be overcome by increasing the dose of oestrogen or changing the brand.

Frigidity is not common, but occurs occasionally. Hairyness is an embarrassing complaint, and one deplored bitterly by the husband, but it can be overcome. Acne or pimples are an occasional accompaniment.

One of the most publicised side effects is thrombosis. We know that there is an increased tendency for thrombosis to occur during pregnancy because of venous stasis. We also know that progesterone has a sedative-like action on the vein walls, helping to promote stasis and blood clots. It is reasonable to suspect therefore that thrombosis could be increased in the pill-taker.

Several years ago the Medical Research Council in England undertook a study to observe the incidence of thrombosis in a group of women, half of whom were taking the pill and half were not. The incidence of thrombosis, year for year, and pregnancy for pregnancy, was identical in both groups. That old bogey had disappeared.

The Cushingoid tendency is an unfortunate one. Cushing's disease arises in the supra-renal gland and is manifest by a tendency towards virilization. It is a disheartening thing to see your wife gradually losing her adorable oestrogen, to hear her voice deepening, to lend her your razor and see her starting to smoke your cigars. This does occasionally occur through some unknown stimulation on the supra-renal glands in susceptible people. It has been said that such people would have suffered from Cushing's disease anyway, and the progesterone accelerated the process.

Trouble at the menopause and after it is something about which no-one is really qualified to speak, since no investigation can overcome the problem of time. Because this whole matter only started in 1958 no one has yet taken it long enough. Some people even now advocate the continuation of the pill until death. We are not certain what happens. Those 200,000 eggs ripe for the stimulation of F.S.H., have been shuttered down all this time. Will they still be active, or will they not, when the pill ceases? It would

be a terrible thing if one night you returned home and there is old Granny sitting in her rocking chair knitting, and you say to your wife, "What on earth is the matter with Granny?" "Pregnant!" It is possible that this could be so, provided the eggs remain fertile. The continuation of progesterone beyond the climacteric may postpone it indefinitely.

The newspapers are full of references about hormones these days, some of which have placed "the pill" a little in the background. You have heard of the wonder pill that produces babies. That is F.S.H. made from human pituitary gland. This can produce multiple births; quintuplets in New Zealand and quadruplets in Sweden, because we have not learned to control the delicate balance between oestrogen and F.S.H., as nature has. Nature has it so finely adjusted that only one egg at a time becomes stimulated.

The other panacea of eternal youth, if you follow the "Women's Weekly", is the "vitality" pill. That is simply oestrogen, the hormone which maintains the femininity of the individual. There is nothing new about that, we have known it for 20 years. It has been re-discovered by the press.

What to do at the menopause? Frankly, we are not certain what to do. We are doing what nature does and that is to wean gradually our patient from the progesterone when she reaches the age of 45 to 50, when one normally expects the menopause, slowly leading her towards the reward which is awaiting her.

The great question is cancer. We are asked about it every day. Only time can prove any relationship with the pill. As far as progesterone goes, it is used to treat cancer of the uterus because being a dampening hormone it has a sedative action on cell growth. There is much evidence to show that far from stimulating cancer of the uterus it has the reverse effect. There may even be a retrogression of the cancer. This has been shown in the experimental animal and many people believe that in time it will be demonstrated in humans. Oestrogen has not the same effect. As the pill contains both hormones, oestrogen may offer a risk of stimulating cancer. All I can say is that in eight years of constant use through many thousands of women there is no indication at present that the rate of cancer has increased.

This discussion has been entirely medical because I am not qualified to talk about the philosophical or legal aspects. I anticipate hearing of them with pleasure from those who can do so.

Discussion

MR. P. A. COLDHAM, Q.C., said that some legal questions could arise as to the rights of the husband in a case where a wife has commenced to take the pill without his knowledge or agreement. What would be the position, for instance, if developments should take place in the wife which are repulsive to the husband. There may be some fraudulent aspect of the wife's conduct in these circumstances which might raise difficult problems for a Judge when the husband, having learned of his wife's conduct, takes proceedings for divorce perhaps on the ground of cruelty. A husband might well be affronted by what he might see as the fraudulent intentions of the wife to deprive him of a family.

THE CHAIRMAN asked whether a husband might have rights against a doctor who prescribes the pill, not so much in respect of medical complications as in respect of personality changes occurring in his wife as side effects of her taking the pill.

DR. G. NEWMAN-MORRIS referred to a problem which had recently occurred in the Australian Medical Association which was not that of a relationship between husband and wife and the use of the pill but the relationship of parents to the unmarried daughter. The parents of a young girl had approached a doctor saying that they were going overseas and they wanted a prescription for the pill so that their daughter would not get into trouble while they were away. This was a social problem and interested members of the Society as much as members of the community as members of the medical or legal profession.

He also referred to a recent visit to China, in which he had tried to obtain some information on the question of birth control. He said that there was a very active campaign on behalf of the authorities in relation to birth control, aimed at getting people in China to limit their families to three or four. He had been taken at one stage to an exhibition of acrobatics and juggling and there was a sketch beforehand in which a very beautiful girl sang a little song in Chinese and behind her was a chorus of six girls. The theme of the song was that she had six children. Two she sent to school and had to cut their sandwiches before she went to work, two she had to get Granny to take to kindergarten, two she had to leave at home, and she sang to the effect that she was now going to have another baby, and what was she going to do? The reply from the chorus behind was that she should have been to the Family Planning Committee ten months ago.

DR. J. G. SHELTON said that he was most concerned by the question of complete ovulation suppression. A young girl who was given these tablets by, perhaps, an inexperienced doctor, for long periods without correct observation and other technical procedures might find in the not too distant future that she has complete ovulation suppression, and although she is only in her early twenties she may never be capable of having a child. This would, he thought, provoke the first legal action in this community in respect of this topic.

DR. A. SINCLAIR doubted whether the introduction of the pill had produced any psychological complications in relationships between men and women as psychiatrists see them in practice. He thought that some women enjoyed the freedom which taking the pill gave them, in the sense that it gave them a feeling of freedom and power in being able to determine whether or not she should be a mother as opposed to the position previously in which she was bound to be involved in some consultation with her husband.

DR. G. SPRINGTHORPE felt that the introduction of the pill had led to the removal of one major cause of anxiety in the case of the woman who lives in constant fear of pregnancy as the result of the excessive libido of an irresponsible husband and which is a real psychological hazard.

DR. AINSLIE MEARES said that many women who take the pill with lurking feelings of guilt are safe in a physiological sense but are very insecure in an emotional sense and many are basically unhappy. It is not simply a matter of classifying women as married and unmarried, and as Catholic and non-Catholic. A lot of Catholic women take the pill and are unhappy while a lot of non-Catholic women take the pill who are also unhappy about doing so. These are normally people who have obsessive traits in their personality and are meticulous, over-conscientious and rather perfectionist. These people have an innate dislike of taking medication and whether Catholic or non-Catholic are often unhappy about it. In the case of the unmarried girls, those of them who are going to be promiscuous anyway are probably gaining something from it in the sense of security they thereby gain. But there are many girls who are borderline, who are not sure of things, and these take the pill. They are not quite sure but say "perhaps I will take it". Some introverted girls have taken the pill with an idea almost of wish fulfilment, as a sort of hope of something turning up. A lot of these girls have gained a great deal of unhappiness with the pill, so that when we talk about

whether the pill brings unhappiness or happiness it must be said that in some groups it has brought great happiness and in some other groups it has brought a deal of tension and anxiety.

MR. JUSTICE SMITHERS thought that the introduction of the pill would have to be taken into account in the matter of divorce. The idea used to be that a man got married with the idea of having children, and that when his wife married him she undertook that she would play the game and that she would have such children as came along in accordance with their performances, by agreement or chance, as the case might be. If the husband married his wife on the ground that he would like to have children and he does not get them, does he stay married to the woman, or do we add to our grounds for divorce a ground that the lady refuses to stay married unless she has an adequate supply of pills?

DR. McDONALD: By and large the effects of hormone therapy are reversible. As to what happens if you find your wife becoming hairy, I hasten to point out that it is rare, but that what is probably more common and more difficult is that she becomes frigid. Where do we stand there? I think that that could be settled out of Court by stopping the pill, because the effect of this is almost entirely reversible, and in stopping the therapy there is a total return to normality. I cannot see any strong litigation proceeding on this ground.

A pertinent question arises as to who is using the pill, where it is being used, and what is its distribution. The difficult problem confronting us today is that the higher the standard of civilization, the greater the use of the pill. In fact, drug firms concentrating on their sales in Australia have found that on a per capita basis, the greatest demand is in Tasmania, which has a high intake. As you come down the ethnic scale, you find less and less demand. An interesting point about this is that even in Australia there is class distinction. This I think is an important problem confronting us today as individuals in the community—so-called “educated classes” the upper classes, if you like, are the ones taking the pill and therefore suppressing their children whilst the lower classes, the ones who have neither the intelligence nor the money to afford it are not taking it, with the result that the poorer classes are slowly overwhelming the educated classes. As to other countries, a study has been made in India, and one big drug firm performed a wonderful service by withdrawing their drug from the market and placing it on street stalls for all to take at a very cheap rate. This method of distributing the drug was supervised

and it has helped to control the population there. Japan has imbibed the pill in a great way, and as culture and electronics increase, so does the pill consumption. As to the question of prohibiting the use of the pill by young girls: I have never been guilty of this. In fact, I have always felt loth to prescribe it even to young brides. I had a girl of sixteen who came into my rooms not so long ago, who said she wanted some contraceptive device and suggested the pill, so I picked up the telephone and said, "I will be happy to do that for you, but I will call your mother first." She said "it does not matter," and rapidly withdrew.

As to the question of the pituitary gland closing down at the menopause, I would like to say that in Rome at the moment there is a large tanker taken around every morning to the various convents to be filled with the urine of post-menopausal nuns, with the idea of extracting from this the high concentration of pituitary endocrines which occurs in post-menopausal women. One of our sources of S.S.H. is from the urine of post-menopausal women. It is the ovary which packs up at the menopause.

An important question was raised as to whether the permanent suppression of the egg formation occurs as a result of giving the pill to people for a long time. Now, strange to relate we had a gynaecologists' convention in Hobart recently and this subject was discussed. It was shown that in the first place it is extremely rare indeed, and in the second place it occurs only in certain women who are susceptible. The point is that certain women have a poor pituitary-ovulatory machine anyway, as certain women have fallen arches. These women are bad ovulators. Anything that upsets the mechanism of this is liable permanently to disarrange the balance and stop ovulation forever. One would be very foolish to prescribe a drug of this nature to these women. For this reason it is important that this drug should be in the hands of responsible people. It should not be handed out by unqualified people.

There is nothing at all so far to show that there is any increase in the rate of abortions, nor in the rate of foetal abnormalities following the use of progestogens, up to this stage.

As far as the psychiatric triumvirate is concerned, I was talking about the soma, and you were talking about the psyche. I did not mention happiness but I noticed that each of the three psychiatrists did. You can be happy though you are in the oestrogen phase or in the progesterone phase. I did not infer that one was unhappy when she was broody or unhappy when she was not.