Emergency Contraception
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Dr. Michael Policar:

I'm Dr. Mike Policar. I'm a Clinical Professor of Obstetrics, Gynecology, and Reproductive Sciences at the University of California San Francisco School of Medicine. Today we're going to talk about emergency contraception, and I'm going to try to answer a number of questions that you may have had on this topic.

Dr. Michael Policar:

Specifically, we're going to discuss what's currently available for emergency contraception, both products and how to acquire emergency contraceptive pills and IUDs. Second is to attack the issue of whether or not both providers and consumers know about emergency contraception. Third is what's the effect of a woman's body weight on the efficacy of emergency contraceptive pills? The next is whether or not OCs or other progestin containing methods can be started as soon as a woman uses ulipristal acetate. And then the last is, does it help to give a pack of emergency contraceptive pills in advance?

Dr. Michael Policar:

So, there are three options for emergency contraception. There are two emergency contraceptive pills. One is levonorgestrel, which is abbreviated LNg. The other is ulipristal acetate, abbreviated UPA. And then the copper T-380 IUD, inserted for the specific purpose of emergency contraception, but thereafter used as a woman's ongoing method of contraception. Now one other abbreviation that I can tell you about is UPI, which stands for unprotected sexual intercourse.

Dr. Michael Policar:

Now with levonorgestrel emergency contraceptive pills, it's given as a single, 1.5 milligram tablet, and it's labeled for use within 72 hours of unprotected intercourse, and the efficacy is quite good within the first three days. However, it can be used within 72 hours and 120 hours of unprotected intercourse, but there the efficacy drops off, so there it's only considered to be moderately effective. The products that are available are a brand name version which is called Plan B One Step, and a variety of generic, one-dose products. The old fashioned two tablet products where one pill was used as a first dose and the second 12 hours later is now considered to be outdated.

Dr. Michael Policar:

So, the kinds of products that you'll see are either the brand name version, or a variety of single-dose generic versions of levonorgestrel emergency contraceptive pills.

Dr. Michael Policar:

Now the other type of emergency contraceptive pill is ulipristal acetate. It is a selective progesterone receptor modulator and acts on the follicle within the ovary. Its mechanism of action is to prevent

ovulation, with follicles up to 18 to 20 millimeters in diameter right before ovulation. It can also inhibit implantation, but at doses that are much higher than what we use clinically as emergency contraception. It's taken orally as a single, 30 milligram dose. It's labeled for use up to five days from the time of unprotected intercourse, and the single product that's out there is called Ella, and it's been made by varieties of pharmaceutical companies in the past, most recently one called Afaxys.

Dr. Michael Policar:

Now a logical question is which of the two works better, and here we have a trial that was done with almost 1700 women randomized to either ulipristal acetate or levonorgestrel. The failure rates of UPA were about 1.8%, and for women who used the levonorgestrel emergency contraceptive pill, about 2.6%. Now also there was a sub-study done of women who had exposure to unprotected intercourse within 72 to 120 hours of unprotected intercourse, and there were no failures with ulipristal acetate, three failures with levonorgestrel. So, in that first three days, we consider ulipristal acetate to be somewhat superior to the use of levonorgestrel for preventing unintended pregnancy, and within 72 to 120 hours, it's quite clear that ulipristal works better than levonorgestrel. The conclusion from this study is that ulipristal is not inferior to levonorgestrel, couldn't actually say it was better because the sample sizes were not large enough, and that ulipristal acetate is effective for up to five days after unprotected exposure.

Dr. Michael Policar:

Now the third approach to emergency contraception is the use of a copper intrauterine device. It is remarkably effective. The failure rate is only .1%, meaning that there's only one failure per thousand women who have this inserted as a method of emergency contraception. It's effective when placed up to five days from the time of ovulation, and if we can't determine the date of ovulation, then up to five days from the date of unprotected intercourse. It is an off-label use of the copper IUD, and it's most cost effective when a woman not only uses it for emergency contraception, but when it's continued long-term, as well. And one study shows that the duration of use of copper IUDs is about equal in women who have them inserted for emergency contraception as they are for women who intend to use them over a longer period of time.

Dr. Michael Policar:

Now how does a woman acquire emergency contraception? Levonorgestrel pills are now available over the counter with no age restrictions and no need to show any sort of ID that reflects your age. Prices range between $40.00 for a generic version, up to $50.00 or a little more for a brand name. On the other hand, ulipristal acetate requires a prescription, either for dispensing at a pharmacy or for use in a clinic. But it is important to mention that emergency contraceptive pills are included in the preventive services without cost-sharing feature of the Affordable Care Act, and that health plans may cover some or all of the EC products, but they may require a prescription in order to pay for them without any cost-sharing.

Dr. Michael Policar:

Now the next question is, everybody knows about emergency contraception, right? Well, there have been a couple of studies lately that look at that issue. The first has to do with whether or not women

have used emergency contraception, and this looks at a number of time periods in the National Study of Family Growth and shows that for women between 15 and 19, about 22% of women have used EC in the past. For women between 15 and 44 years of age, 18% have used it in the past. So, the good news is that use of emergency contraceptive pills is going up. The concerning news is the fact that only one in five women have ever used emergency contraception, and certainly the need for emergency contraception would be more than that one in five women who have ever used it in the past.

Dr. Michael Policar:

A separate study looked at whether or not providers are actually recommending or prescribing emergency contraceptive use for their patients. The majority of people did recommend or provide levonorgestrel emergency contraceptive pills. 81% of the reproductive health care providers and over half of the non-reproductive health care providers. However, the numbers were quite low for ulipristal acetate. Only 4% of the non-reproductive health care providers had recommended it, compared to about 14% of reproductive health care providers, and that's a disappointingly low number. The numbers are slightly better for copper IUDs used as emergency contraception. About a third of reproductive health care providers have prescribed it for that purpose, but only 6% of non-reproductive health care providers. So, we still have a way to go, both for consumers and for providers, in knowing about the availability of these methods and specifically recommending them to our patients.

Dr. Michael Policar:

The next question is, what is the effect of emergency contraceptive pills in relation to body weight? In the past they've been labeled for use in women of any body weight, but work was published in 2011 that showed for the first time that failure rates were higher in a relationship to women who had a larger BMI, or body mass index. So, compared with women of normal body weight, which is a BMI of less than 25, overweight women with a BMI between 25 and 30 had a 1.5 relative risk for unintended pregnancy, and women who were obese with a body weight of 30 or more had about a threefold increase risk of failure, and by the way, this study combined both levonorgestrel and ulipristal acetate emergency contraceptive pills. Now it is biologically plausible that this would happen because of the fact that two studies that were done with oral contraceptives showed that obese women had much slower uptake of the hormones in oral contraceptive pills into their blood stream, and that might explain the lower efficacy rates in women who have a higher body mass index.

Dr. Michael Policar:

So how can we use that clinically? The answer is that when a patient asks for emergency contraception, our first line of intervention should be to counsel her about the use of a copper IUD. But if she's not interested in using that, the next question is, what is her BMI? If her weight is less than 75 kilograms or 165 pounds, either of the oral emergency contraceptive pills would work equally well for her. If her body weight is between 76 and 89 kilograms, then levonorgestrel has a drop off in its efficacy, and UPA will work better in that circumstance. If her body weight is between 80 and 88 kilograms, now levonorgestrel pills are no better than a placebo, so they don't protect against unintended pregnancy. But for that woman, we would recommend using ulipristal acetate. And then lastly, for women who have a body weight of more than 88 kilograms, which is 194 pounds, levonorgestrel pills don't work at

all. Ulipristal acetate has a compromise in the degree that it works. It's probably better than nothing, so either a copper IUD or the use of ulipristal acetate in women in that weight category.

Dr. Michael Policar:

Now the next issue is, when can emergency contraceptive pills be started after using emergency contraceptive pills, and historically we've said that women can use any of the progestin containing methods of contraception immediately after using either UPA or levonorgestrel pills as long as they used a barrier backup until the time of their next menstrual period. Well, things changed for ulipristal acetate. In March of 2015 when the FDA changed the patient product labeling for UPA, and basically it says, after using Ella, if a woman wishes to use hormonal contraception, she should do so no sooner than five days after the intake of Ella, and that she should use a reliable barrier method until her next menstrual period. So, to summarize that, it basically says after using UPA, don't start oral contraceptives for at least five days, and to use a barrier method of contraception until the next menstrual period.

Dr. Michael Policar:

The change in the labeling came from this study, which was published in 2015 and was a comparison of women who used UPA with a placebo in comparison to women who used UPA followed by desogestrel progestin only pills, and it looked at the percentage of cycles where women ovulated within five days. What they found is that in women who used UPA with a placebo, only about 3% ovulated. But if women used UPA followed by a desogestrel progestin only pill, 45% ovulated, and the most likely reason for that is because the progestin from the progestin only pill occupied the progesterone receptor in such a way that it blocked the ulipristal acetate from doing the work that it needed to do to prevent ovulation from occurring. Now a number of questions arise from that data.

Dr. Michael Policar:

Number one, does this apply to other products? And the answer is, it’s only been studied with a desogestrel progestin only pill, one that isn't available in the United States. So, we don't know the answer yet. Second is, does this apply to other hormonal methods of contraception? Should we have the same concern about inserting a levonorgestrel intrauterine system, or putting in an implant, or using contraceptive injections? And the answer for now is the fact that it would be prudent to restrict the use of progestin containing contraceptive methods for at least five days after using ulipristal acetate, again, in an attempt not to reduce the efficacy of having used UPA. Now the next question that comes up has to do with timing. Do we start that clock five days after giving ulipristal acetate or five days after unprotected intercourse? And the answer is, at least according to the FDA labeling, we avoid the use of progestin containing contraceptives for five days after using UPA. Then the last question has to do with our concerns about on one hand wanting ulipristal acetate to work as well as possible, but on the other hand, wearing our public health hat, being concerned about having women start their ongoing method of contraception as soon as possible, and you'll need to tailor that to the individual concerns of the patient that you're caring for.

Dr. Michael Policar:

The last question is, does it help to give a pack of emergency contraception in advance? Back in the late 90s and afterwards, we thought it really made sense to give advance provision of a pack of emergency

contraceptive pills that women could have at home when their clinic or their pharmacy was closed. However, 15 studies have been done to evaluate whether or not that approach works any better than as-needed prescription or provision of EC, and only one showed any benefit. So, what we know from studies done of advance provision of emergency contraception is that it actually increases the use of emergency contraceptive pills. There's no decrease in ongoing contraceptive practice, no increase in sexually transmitted infections, but 14 of the 15 studies showed that advance provision of emergency contraception does not reduce pregnancy rates when compared to use on an as-needed basis. And that's either because the emergency contraception wasn't used, or it wasn't used correctly. So, we no longer provide advance provision of emergency contraception in general simply because of the fact that it's, seems to be no more effective than giving it on an as-needed basis.

Dr. Michael Policar:

So, let's finish up by saying that the copper IUD provides superior emergency contraception if it's inserted within five days of ovulation, and ideally in women who also desire the IUD for long-term contraception. Second is that emergency contraceptive pills are a last chance to prevent unintended pregnancy and that ulipristal acetate is preferred for exposure four or five days after unprotected intercourse, or in women who are overweight or obese, but that for women of normal body weight, particularly within the first three days after unprotected intercourse, that either UPA or levonorgestrel work equally well. And lastly, advance provision doesn't seem to help any more than simply obtaining emergency contraceptive pills on an as-needed basis.

Dr. Michael Policar:

Here's a website that will answer even more questions and will help you out in the clinical use of emergency contraceptive pills. Thank you so much for joining us today for this discussion.