Chemical Abortions: With and Without Medical Supervision

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ABSTRACT: Chemical abortions, otherwise known as "medication-induced" abortions, were approved by the FDA in September 2000, and now account for over 50% of abortions in the United States. Women are being encouraged to order and carry out their own abortion, without in-person supervision by health care professionals, contributing to increased risks of complications. This paper describes the use of synthetic chemicals to induce abortion and the complications faced by women who obtain care in a medical setting, including hemorrhage and incomplete abortions that may require surgical intervention. Additionally, it describes the increased risks for those women who use telemedicine or the Internet to obtain their chemical abortion, especially when those abortions are completed without physician supervision (self-managed). The risks may include an undiagnosed ectopic pregnancy, increased complications due to underestimated or understated gestational age, Rh isoimmunization, and undiagnosed infection. Intimate partner violence, reproductive coercion, and human trafficking are also less likely to be suspected in the absence of an in-person medical evaluation. The American College of Pediatricians strongly encourages health care professionals, policy makers, and women of all ages and their families to understand the serious risks associated with chemical abortions, especially when self-man-

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aged. Additionally, pregnant women with regrets after starting chemical abortions need to be informed about the potential for abortion pill reversal.

Introduction

The Planned Parenthood website states, "Medication abortion has been used safely in the U.S. for more than 20 years. Serious complications are really rare, but can happen."[1] Because substances such as the chemicals used for those "medication" abortions are used to destroy life rather than to heal and save lives, the American College of Pediatricians (ACPeds) believes that their use in abortion should be called "chemical" rather than "medical" or "medication" abortions, because those terms imply a therapeutic benefit.

CBS News reported on May 17, 2017, "Taking abortion pills at home [is] as safe as in a clinic, study finds."[2] This was a study published in the *British Medical Journal* of 1636 women in Ireland and Northern Ireland who obtained prescriptions for mifepristone and misoprostol by mail.[3] The study reported that 95% of the women confirmed their pregnancy had ended, with most being less than 9 weeks pregnant at the time the medication was prescribed. The researchers stated 9.3% of women reported potentially serious complications, with 7 women requiring a blood transfusion and 26 requiring antibiotics. However, follow-up data for 29% of the women was missing—a serious limitation of the study.

Despite these claims to the contrary, self-managed chemical abortion has potential for increased maternal complications, and it is extremely important that women (including pregnant adolescents) know the facts before deciding to use this method for abortion. ACPeds encourages all women to understand that abortion kills a living human being, and, in addition, no matter which method is used, the woman herself is at risk for serious complications, both at the time of the procedure and subsequently. This is especially true for women who have chemical abortions.

Definitions

It is important to understand the terminology used in the medical literature regarding chemical abortions.

Medication abortion or medical abortion is the term used in most medical literature as well as by Planned Parenthood to describe those abortions induced by the use of two chemicals—mifepristone and misoprostol. *Chemical abortion* is the term mainly used in this position paper, and this method is often referred to by the public as the "abortion pill."

Telemedicine abortion describes the prescription of chemical abortive agents without an in-person evaluation by a health care professional but includes a remote interaction with the provider, usually by video. Women may or may not be required to obtain laboratory or ultrasound evaluation when utilizing telemedicine.[4,5]

Self-managed abortion describes the process by which a woman may request a prescription for chemical abortive agents via the Internet. Her medical information may be reviewed by a licensed provider, her gestational age will most often be determined solely by her last menstrual period (LMP), and she will most likely not have an in-person video appointment with the provider. Various internet sites now offer this method to women aged 15 years of age or older who are in the first 10 - 12 weeks of pregnancy for a cost of $175-$350. Availability is dependent upon state regulations.[6]

Some Internet sites provide the dosage and cost information for misoprostol as a single drug protocol so individuals can purchase that medication without a prescription where it is available over the counter, e.g. Mexico.[7]

History

Chemical abortion was originally approved in the United States in September, 2000, for pregnancies up to 49 days gestation (about 35 days post-conception). The approval process and subsequent protocol changes did not follow the usual United States Food and Drug Administration (FDA) policies, and, in fact, the French pharmaceutical company Roussel Uclaf that developed mifepristone initially prohibited the possibility of a new drug application with the FDA. However, under pressure from the Clinton administration, agreements were reached to allow the Population Council/ Planned Parenthood to file a new drug application with the FDA. The manufacture of mifepristone was transferred to Danco Laboratories, incorporated in the Cayman Islands. For additional information on the approval process, please see the referenced paper.[8]

Two chemicals are used. Mifepristone (Mifeprex or RU-486) is taken on day 1. As a synthetic steroidal anti-progesterone agent, it blocks the progesterone receptors in the uterus, leading to fetal death. This medication is then followed 24–48 hours later by the use of misoprostol (Cytotec), a synthetic prostaglandin, that induces contractions to force the embryo (or fetus if taken later in pregnancy) out of the uterus.[9]

The original prescribing requirements stated that 600 mg of mifepristone was to be taken orally in the doctor's office on day 1 and 400 mcg of misoprostol was to be taken orally in the doctor's office on day 3. Another office visit to the physician was required on day 14 for follow-up. The prescriber was required to be a licensed physician who was able to accurately diagnose the duration

of pregnancy, diagnose ectopic pregnancies and provide surgical intervention in the case of an incomplete abortion or severe bleeding. The physician also had to assure patient access to medical facilities that were equipped to provide blood transfusions and resuscitation, should that be required. The physician was obligated to report any serious complication, including hospitalizations, transfusions, ongoing pregnancies and other serious events.[10] The regimen has since been changed to 200 mg oral mifepristone and 800 mcg buccal misoprostol (dissolved in the cheek), and the prescriber no longer must be a physician.[9]

On May 17, 2006, the Subcommittee on Criminal Justice, Drug Policy and Human resources under the Committee on Government Reform held a Congressional Hearing on Mifeprex (RU-486).[11] The hearing was called because Mifeprex had been noted to be associated with "the deaths of at least 8 women, 9 life-threatening incidents, 232 hospitalizations, 116 blood transfusions, and 88 cases of infection. There are more than 950 adverse event cases associated with RU-486 out of only 575,000 prescriptions, at most." The report goes on to state that at least five of the deaths were the result of a toxic shock-like syndrome initiated by *Clostridium Sordellii*, a bacteria normally found in the female reproductive tract that causes no illness unless the immune system is compromised.

Just prior to the Congressional hearing, the Centers for Disease Control and the Federal Drug Administration held a workshop entitled "Emerging Clostridial Disease" that further investigated the link between RU-486 and Clostridium infections.[12] Initial symptoms of the infection mimicked those expected after taking the drug—cramping, pain, nausea and vomiting, without fever. Infected women, then, did not recognize the presence of an infection, and each of the 5 women who were infected in the above series were dead within 5 to 7 days. Because of the seriousness of this infection associated with the use of Mifeprex, the medication insert warns of "Serious and sometimes fatal infections or bleeding," and states, "A high index of suspicion is needed to rule out serious infection and sepsis."[13]

In 2011, the FDA instituted a Risk Evaluation and Mitigation Strategy (REMS) for the abortion medications. This is a drug safety program that can be required by the FDA to monitor serious safety concerns, thus ensuring the benefits of the medications outweigh the risks. However, in 2016, the FDA relaxed the REMS and allowed the medication to be prescribed up until 70 days of gestational age (GA), with only one office visit required between days 7 - 14. The dosing regimen was also modified to lower the dose of mifepristone to 200 mg orally with a higher dose of 800 mcg of misoprostol given by the buccal route on day 2 or 3. In addition, the health care provider was not required to be a physician, but the prescription was still to be dispensed in a health care setting. More significantly, reporting requirements were relaxed so only deaths

were reported; reporting of serious complications, including hospitalizations, blood transfusions, and surgeries were no longer required.[14]

Several changes were instituted between July 2020 and December 2021 that culminated in the FDA removing the requirement that the chemicals be dispensed in healthcare settings, thus allowing pharmacists to dispense the chemicals, and no longer requiring any in-person visit. However, some individual states do have stricter laws in place. The Guttmacher Institute noted in August 2022, that 29 states still required the prescriber to be a physician, with 19 states prohibiting telemedicine for chemical abortion and 2 states prohibiting chemical abortion after a specific GA.[15]

In January 2023, the FDA revised prescription and dispensing requirements for mifepristone, allowing the chemical to be dispensed "by or under the supervision of a certified prescriber, or by certified pharmacies on prescriptions issued by certified prescribers."[16] Pharmacies were allowed to ship the medication to patients. Other changes included the elimination of the black box warning that previously required patients to be told to inform emergency department health care providers of their chemical abortion should they require emergency care.[17] CVS immediately announced plans to "seek certification to dispense mifepristone where legally permissible" and Walgreens announced its intention "to become a certified pharmacy under the program."[18]

As of 2020, the Guttmacher's survey of abortion providers in the U.S. indicated that chemical abortions account for 54% of all abortions in this country.[19]

Chemical Abortion Side Effects

Bleeding, cramping, and abdominal pain are commonly associated with a chemical abortion, and approximately 8% of women will experience bleeding for more than 30 days afterwards. Planned Parenthood acknowledges the following possible complications after a chemical abortion: bleeding, infection, allergic reaction, retained fetal tissue, and incomplete abortion.[5] Rh sensitization is possible with both surgical and chemical abortions when Rhogam is not administered at the time of the abortion. Side effects of the individual chemicals are discussed below.

Chemical Abortion Contraindications

The medication insert for mifepristone lists contraindications, including confirmed or suspected ectopic pregnancy and specifically states that ectopic pregnancy must be excluded prior to treatment.[20] In addition, the insert states that the presence of an intrauterine device is a contraindication and that prevention of Rh immunization should be provided as needed.

Contraindications to the use of misoprostol, as with mifepristone, include confirmed or suspected ectopic pregnancy as well as the presence of an intrauterine device.[21]

Additional contraindications to a chemical abortion include hemorrhagic disorders, anticoagulant therapy, allergies to either medication, as well as long-term systemic corticosteroid use.[21] Women who have serious systemic disease require individual assessment prior to any form of abortion. The Practice Bulletin of The American College of Obstetricians and Gynecologists (ACOG), "Medication Abortion Up to 70 Days of Gestation" states, "The safety of medication abortion in patients with anemia is unknown because studies have excluded patients with anemia who have hemoglobin levels of less than 9.5 or 10 g/dL."[22] The bulletin acknowledges that the transfusion rates are tenfold higher for patients who undergo a chemical abortion (0.1%) compared with those who have a surgical abortion (0.01%)

Medication Information

Mifepristone (Mifeprex)

Mechanism of action

Mifepristone is an anti-progesterone medication (termed a progesterone receptor modulator) that binds to the progesterone receptors with a greater affinity than does progesterone. However, it does not activate the receptor, so the drug functions as an anti-progesterone hormone. Since progesterone is required at the onset of pregnancy to prepare the endometrium for implantation and also necessary for the maintenance of pregnancy, progesterone receptor modulators that decrease the effects of progesterone will interfere with pregnancy. The endometrium and placenta will not develop appropriately and the implanted fetus will detach from the uterine lining.

In addition, at higher doses mifepristone blocks cortisol at the glucocorticoid receptors in the central nervous system and in peripheral tissues. This effectively blocks cortisol stimulation of gluconeogenesis and lipolysis, decreasing hyperglycemia associated with Cushing's syndrome.[23] Thus, the two main FDA-approved indications for mifepristone are pregnancy termination and management of hyperglycemia associated with Cushing's syndrome. This medication has a long half-life of at least 30 hours.

Common side effects

Common side effects of mifepristone include nausea, vomiting, abdominal pain, diarrhea, fever, chills, fatigue, and headache. The medication insert prepared by Danco Labs states "About 85% of patients report at least one adverse reaction following administration of MIFEPREX and misoprostol, and many can be expected to report more than one such reaction."[23,24] Less commonly, side effects such as peripheral edema, hypotension, hypoglycemia, and anemia may occur, while anaphylactic reactions are rare.

Rare complication

A rare, serious, and usually fatal infection with *Clostridium sordellii* has been associated with mifepristone. (See Congressional Hearing on Mifeprex above under "History.") The Canadian Medical Association released a Health and Drug Alert in August 2005 in response to the report of the first four deaths of women with sepsis after mifepristone.[25]

Mifepristone blocks cortisol's negative feedback receptors in the hypothalamus and anterior pituitary, resulting in an increased release of cortisol from the adrenal cortex. This same blockade, when it occurs in the glucocorticoid receptors in leukocytes, inhibits the secretion of interleukin-10 (IL-10), a very powerful anti-inflammatory cytokine, thus impairing the immune system and its ability to prevent the spread of the Clostridium infection through the endometrium.[26] The bacteria itself also releases potent exotoxins and endotoxins, contributing to the rapid onset of sepsis. The infection has been fatal for nearly all women who developed infections after a chemical abortion or delivery.[27,28]

Misoprostol (Cytotec)

Mechanism of action

Misoprostol is a synthetic prostaglandin E1 analog that inhibits gastric acid secretion and protects gastric mucosa by stimulating prostaglandin E1 receptors on the stomach's parietal cells. The drug also induces secretion of bicarbonate and causes edema of the mucosa, so the mucosa can regenerate. Misoprostol's effects in the reproductive tract occur because it binds with myometrial cells in the uterus to produce uterine contractions.

Misoprostol is approved by the FDA to prevent and treat gastric ulcers, especially in those on long-term nonsteroidal anti-inflammatory drugs (NSAIDS). The medication is also used in obstetrics for induction of labor and the control of postpartum hemorrhage.

Side effects

Side effects of this medication include nausea, vomiting, diarrhea, headache, dizziness, and fever and chills.[29] So, it follows that these are the same symptoms that are commonly experienced by women who have chemical abortions. Less common moderate to severe reactions include hypotension, myocardial infarction, uterine rupture and pulmonary embolism.

Rare side effect

The ACOG Practice Bulletin on "medication" abortion recommends that patients be counseled about the teratogenicity of misoprostol in case the abor-

tion is unsuccessful.[30] This is because the use of misoprostol in pregnancy has been associated with an increased risk for Mobius Sequence in the baby, a rare disorder of cranial nerve palsies.[31,32] It has also been associated with other major fetal malformations, including terminal transverse limb defects like syndactyly.

Risks of Chemical Abortion

It is difficult to determine the exact number of women adversely affected by chemical abortion in the United States. First, there is no federal law that mandates states or abortion providers report abortion data. In fact, the Supreme Court, in *Thornburgh v. American College of Obstetricians and Gynecologists*, invalidated state reporting laws.[33] Two organizations currently provide national abortion data (the Guttmacher Institute, and the U.S. Centers for Disease Control and Prevention), but the data is voluntary and incomplete, especially since California does not report its data and yet may account for approximately one-fourth of all abortions in the United States. Without knowing the accurate number of abortions provided or complications associated with them, it is impossible to calculate the complication rate.

In addition, the risks of chemical abortion are most likely underreported due to incorrect coding in emergency room visits. A longitudinal study of 423,000 women who had abortions and 121,283 emergency room visits within 30 days of their procedure found "Miscoded spontaneous abortion visits are nearly 4 times as high for chemical abortions, reaching 8.9% of total visits and 60.9% of abortion related visits by 2015."[34] This means that 60.9% of abortion-related ER visits following a chemical abortion were miscoded as miscarriage.

The authors subsequently evaluated 4273 women who had a surgical abortion and 408 who had a chemical abortion and found that women who had a chemical abortion that had been misclassified as a miscarriage during their initial ER visit were more likely to have a hospital admission and require surgical removal of retained products of conception.[35] Thus, miscoding not only affects the data showing ER visits, but also subsequent need for hospitalization and surgical intervention.

International data may be more accurate, given the national registries link abortions and complications, avoiding the high loss of follow up data in the United States. Data from Sweden and Finland is provided below.

As noted above, chemical abortions may be provided in several settings. A patient may visit a health care professional in person, or via telemedicine, or can obtain the medicine via the Internet, without an in person interview. Since a physical examination and ultrasound may not be performed, the duration of pregnancy may not be accurately assessed, and an ectopic pregnancy will likely be missed in the absence of an ultrasound. If the appropriate laboratory

work is not performed, the risk for Rh isoimmunization, as well as possible maternal infections, may also be missed.

With this in mind, it is important to understand that most safety and efficacy studies regarding chemical abortions are from clinical settings in which the procedures were done under medical supervision. Also, many of the studies that purport to demonstrate the safety of chemical abortions are limited by inadequate follow up of patients. Determining the actual complication rates after chemical abortions is also affected by diagnostic coding assigned to emergency room visits that may neglect to connect the complication to the chemical abortion. However, in order to present the evidence, this paper will evaluate the research presented by those promoting chemical abortions as safe.

A systematic review by Chen, et al. in 2015 evaluated 20 studies that included 33,846 women, with over 75% of the data coming from two studies, one by Gatter, et al. in 2015 (13,373 women) and one by Goldstone, et al. in 2012 (11,155 women).[36,37,38] Both of these studies had a large number of patients who were lost to follow-up—15.5% in the Gatter study and 16.6% in the Goldstone study. Neither study evaluated emergency room visits and the 2012 one did not evaluate hospitalizations. Very few of studies in the review study had data regarding visits to emergency departments, but the two that did have such data found 2.9% and 3.7% ED visits after chemical abortion attempts. Six studies reported the number of patients requiring surgical evacuation for reasons other than continuing pregnancy, and these numbers ranged from 1.8% to 4.2% of patients. In addition, data on women treated between 64 and 70 days gestation was limited because only about 1% of chemical abortions were performed during that gestational age range, but 2.9% of patients in that GA had ongoing pregnancies compared with 1.8% of those women between 57 - 63 days gestation.

Comparison of Chemical with Surgical Abortion

A 2015 retrospective cohort study at Planned Parenthood in Los Angeles compared outcomes for women who experienced a chemical versus a surgical abortion before 64 days of gestation.[39] Electronic medical records were reviewed for 30,146 women (13,221 chemical abortions and 16,925 surgical abortions), with sociodemographic and clinical characteristics similar in the chemical and surgical abortion groups. The authors state, "The medication abortion group was more likely to undergo an unanticipated aspiration, for ongoing pregnancy or persistent pain, bleeding, or both (2.1% compared with 0.6%)." The frequency of any adverse event is stated to be "low at 1.9%," but "this risk was higher in the medical abortion group than the surgical abortion group (OR 6.6, 95% CI 5.5-8.0)"—a six-fold increase in adverse events in the patients who had a chemical abortion. Despite this notable risk for post-abortion problems, the authors conclude, "Medication abortion and surgical abortion before

64 days of gestation are both highly effective with low complication rates." The authors also note that the likelihood of ongoing pregnancy increased by 50% for each week of gestation with chemical abortion. Further, in this study, 15.9% of those undergoing chemical abortion were lost to follow-up, and the authors assumed those women had an uncomplicated complete abortion.

A systematic review published in 2019 searched PubMed and Cochrane databases for articles evaluating chemical abortions late in the first trimester (>63 to <84 days GA) that utilized various protocols and dosages of mifepristone and misoprostol.[40] Although the search found 3384 articles, only nine met the authors' inclusion criteria, three of which were prospective cohort studies. They reported, "Medical abortion, as compared with surgical abortion, was effective in the late first trimester (94.6% versus 97.9% complete abortion)." Those comparative rates were based on one study. Complete abortion rates for various chemical regimens in the other studies with varying protocols ranged from a low of 78.6% to 94.6%, with higher rates achieved with extra misoprostol.

International Data on Chemical Abortions

Data from Sweden on 4945 induced abortions from 2008-2015 was evaluated.[41] All women had a pre-abortion evaluation with a gynecologist in a clinic, including a pelvic exam and an ultrasound as well as screening for infection. This study showed that in women who had a chemical abortion prior to 12 weeks, 4.1% had an incomplete abortion (the most common complication) and the overall complication rate was 7.3%. Interestingly, the complication rate increased from 4.2% to 8.2% between 2008 and 2015. The authors speculated that the increased share of complications with chemical abortions might be from increased home abortions that may present with more complications.

In 2009, Niinimaki, et al. reported on 42,619 abortions up through 64 days gestation in Finland between 2000 and 2006.[42] Data was obtained from the National Health Registry, and women were followed for 6 weeks post procedure. The authors summarize their results by stating, "The overall incidence of adverse events was fourfold higher in the medical compared with surgical abortion cohort (20.0% compared with 5.6%, P<.001). Hemorrhage (15.6% compared with 2.1%, P<.001) and incomplete abortion (6.7% compared with 1.6%, P<.001) were more common after medical abortion."

Another study from Finland found that the risks of chemical abortion increased significantly in the second trimester compared with the first.[43] Women who underwent chemical abortions between 2003 and 2006 (N=18,258) were evaluated and followed for six weeks post procedure. The need for surgical intervention increased from 7.9% during the first trimester to 38.5% when the abortion was performed during the second trimester. The risk of infection also increased from 1.9% to 4%.

Telemedicine for Chemical Abortion

In early 2020, as the COVID pandemic interfered with patient-physician in-person visits, the need for telemedicine increased, and proponents of abortion quickly encouraged the use of telemedicine to allow women to access chemical abortions. Even before this, a systematic review had been published in August 2019 that evaluated the outcomes of chemical abortions provided by telemedicine.[44] Using a search of the literature through November 2017, the researchers found 13 articles that met their study criteria, only one of which was a prospective, cohort study and none were randomized trials. The other articles reported on retrospective or descriptive studies, with nearly all the studies limiting participants to those who were less than 10 weeks gestation. Most significantly, nearly all the participants received ultrasounds prior to taking the abortion-inducing medications. This would more accurately determine GA as well as rule out ectopic pregnancies. In addition, all study groups were middle to high income, outcomes were self-reported, and 5 - 57% of women in the studies were lost to follow-up.

The rates for continuing pregnancy ranged from 0 to 1.9%, with need for surgical evacuation ranging from 0.9% to 19.3% in chemical abortions done at ten weeks or earlier. For those women whose gestational age was greater than 10 weeks, the need for surgical evacuation was 8.5% to 20.9%. The authors concluded, "A systematic review of medical abortion through telemedicine shows outcome rates similar to in-person care," but acknowledged that their analysis was based mainly on self-reported data. They acknowledged methodological limitations and so "rated the quality of evidence for all selected outcomes as low, on the premise that all studies were observational and most lacked a comparison group for the effect measured." In addition, they stated, "the risk of selection bias was high."

Researchers in Iowa conducted a retrospective cohort study for all chemical abortions performed by telemedicine or in person between July 2008, and June 2015.[45] During that interval, 19,170 abortions were performed, with 45% of those via telemedicine. All patients were evaluated by clinic staff with a focused physical examination, a hemoglobin measurement, and an ultrasound. A total of only 49 "clinically significant adverse events" were reported with no case requiring surgical intervention. However, the researchers specifically excluded reporting on "non serious adverse events that were treated in the outpatient setting," and did not report on "cases of ongoing intrauterine pregnancy, because this is a known possible outcome of medical abortion."

A study of telemedicine abortion provided in five states over a 32-month time frame evaluated 248 women who were sent medications via mail, after having been screened with pre-treatment laboratory tests and ultrasound examination.[46] In this study, 23% of patients were lost to follow-up. Of those

who were followed, 93% had completed abortions and 8% required emergency room care. Of the patients who were Rh negative, 31% did not receive Rhogam. One patient was hospitalized for excessive bleeding and 27 other women presented for clinical evaluations. Again, despite the above real and potential problems along with poor follow-up, the authors state, "This direct-to-patient telemedicine abortion service was safe, effective, efficient, and satisfactory."

A retrospective cohort study was reported by researchers at the University of California, San Francisco, evaluating 141 patients who received "fully remote" telehealth chemical abortions between October 2020 and January 2021.[47] Even though this study was designed to demonstrate the safety of telehealth chemical abortions, of the 110 (86%) women available for follow-up, 24 (17%) had a pre-abortion ultrasound. Most (95%) of the women experienced a complete abortion without further intervention, while 5% required undefined medical care to complete the abortion. Although 14 (9.9%) of the women were Rh negative, none of them received Rhogam. Researchers acknowledged the study was "small with some loss to follow-up, and thus some adverse events and ongoing pregnancies may have been undetected. However, it reflects real-world data, which increases generalizability. This study provides preliminary evidence that suggests medication abortion care, administered by telehealth and delivered via mail, is feasible, safe, and efficacious." This small study was promoted in the media as proving telemedicine abortion was safe, including in an article on Healthline that was headlined, "Telemedicine abortion still safe during pandemic."[48]

A larger prospective cohort study performed during the COVID pandemic of 663 women in Scotland was reported in February 2021.[49] GA was based upon patient-reported last menstrual period alone in 552 (78.7%) of women. Although pre-abortion ultrasound was not routinely required, 23.3% of the women did have an ultrasound, and one of those women was found to have an ectopic pregnancy. Four women (0.6%) had incomplete abortions, 5 (0.8%) had an ongoing pregnancy, and 123 (18.5%) women sought advice for a medical concern, with 56 (8.4%) of those attending a clinic for further evaluation. None of the women received Rhogam as the authors state, "In line with national guidance introduced in relation to COVID-19, anti-D prophylaxis was not provided or considered necessary for rhesus-negative women having medical abortion in the first trimester." (Rhogam is discussed in more detail later in this article.)

While acknowledging that "the study size, while considerable, is still too small to detect changes in rare events," the authors still state, "This model of telemedicine medical abortion without routine ultrasound is safe, and has high efficacy and high acceptability among women."

Researchers reported on a study from 13 states between May 2016 and September 2020 with results available on 1157 (83%) of the 1390 packages of chemicals mailed.[50] Of those for whom follow-up was known, 95% had a

complete abortion, 6% (70) sought emergency room care, with 10 serious adverse events noted, including 5 women who required transfusions. Although a screening ultrasound was normally required, 52% of the women who had abortions during the COVID pandemic (346/669) did not have an ultrasound. Again, with 17% of women lost to follow-up and less than half of patients having a pre-abortion ultrasound to rule out ectopic pregnancies, the authors state, "Medical abortion using telemedicine and mail is effective and can be safely provided without a pretreatment ultrasound."

A retrospective study of online telemedicine abortion services provided by Aid Access between March 2018 and March 2019 reported on the safety of self-managed chemical abortion.[51] Patients completed an online consultation form that included weeks gestation calculated by LMP or an ultrasound (obtained in only 9.6% of women). Women had to be within 60 minutes of a hospital in case emergency care was required. Chemicals were mailed to 4584 people, but follow-up was only available on 3186 (70%) and 2797 confirmed use of the chemicals. Of those with confirmed use, 14% (395) reported having a GA of 10 weeks or more. Of the total, 96.4% reported successfully terminating their pregnancies without surgical intervention, but the risk for surgical intervention was greater in those with gestational age of 10 weeks or more (6.1%) versus 2.0% in those with a lower GA. Serious adverse events included hemorrhage, with 18 women (0.6%) requiring a blood transfusion and 15 (0.5%) needing IV antibiotics. Again, adverse events were more common in those with a gestational age of 10 weeks or greater (2.3%) versus 0.8% in those with less than 10 weeks gestation. Women who chose not to use the chemicals (389) were surveyed, and 0.5% stated they had symptoms of an ectopic pregnancy for which they received treatment. The authors acknowledge the study had several limitations, including the follow-up rate of 70%, and also stated the rate of serious adverse events was higher than that reported for abortions occurring in a clinical setting.

A Canadian study evaluated population-based administrative data from Ontario, Canada, before and after implementation of mifepristone available abortions.[52] Data was also evaluated when mifepristone was available only under REMS restrictions and then after mifepristone was available without any restrictions. All women were included who had received abortion services between January 2012 and December 2016 (when mifepristone was available only off-label and only 2.2% of abortions were chemical), between January 1-November 7, 2017 (when mifepristone/misoprostol were available under regulations similar to US REMS and 8.3% of total abortions were chemical), and between November 7, 2017, and March 15, 2020, (when mifepristone/misoprostol were available by ordinary prescription and chemical abortions rose to 31.4% of the total). Records were linked to hospital visits and outpatient prescriptions. Follow-up occurred at 6 weeks after the abortion. There were

314,859 abortions, with annual numbers slowly declining, though the rate of decline slowed after prescription chemical abortions became available.

Although the authors state "Abortion safety outcomes remained stable" after mifepristone became available with a regular prescription," the need for uterine evacuation increased from 1.0% to 2.2% and the ongoing pregnancy rate increased from 0.03% to 0.08%. In addition, "Ectopic pregnancy that was detected after abortion increased from 0.15% to 0.22%." These were trends that did not reach statistical significance. The paper did not report on the GA, use of ultrasound or other routine prenatal testing.

Risks of Misoprostol Alone

Since misoprostol is more easily obtained, some abortion advocates are promoting its use as a one drug regimen for chemical abortion. A double-blind study of 400 women who were less than 64 days gestation and randomized to either mifepristone plus misoprostol or misoprostol alone demonstrated a significant increase in incomplete abortions in the misoprostol only group.[53] Abortion was completed for 76.2% of women in the misoprostol only group versus 96.5% of those who received both chemicals.

A systematic review of 12,829 women who were treated with misoprostol alone found overall 22% required surgical uterine evacuation to complete their abortion, and 13% required intervention with the most efficacious regimen.[54]

Despite this high failure rate, the single chemical regimen is promoted to help circumvent state laws restricting prescribing chemical abortions.

Risks of Self-Managed Abortion

A self-managed abortion, as noted earlier, describes the process by which a woman may request a prescription for chemical abortive agents via the Internet. This means the woman has not personally been examined by a health care provider, has generally not received any pretreatment laboratory evaluations to determine her Rh status, nor has she necessarily had an ultrasound to determine GA and assure the absence of an ectopic pregnancy. The woman who has a self-managed abortion is therefore more likely to have an inaccurate GA and therefore be at higher risk for medical complications which occur with greater frequency as GA increases. She may also be more likely to experience an undiagnosed ectopic pregnancy, and, if Rh negative, she may be more likely to become sensitized, risking future children. In addition, infections that may impact maternal health are less likely to be diagnosed or treated, and there will be no built-in opportunity for a health care provider to identify and assist victims of intimate partner violence or human trafficking. Each of these topics will be further addressed below.

Evaluating the safety of chemical abortions with screening based solely upon the woman's medical history, Upadhyay, et al, reported on 3779 patients

who were treated at 14 Planned Parenthood clinics in the United States between February 1, 2020, and January 31, 2021.[55] There was no follow-up data on 954 patients (25.2%) and no abortion outcome data on another 428 patients (11.3%). The study excluded women who had any pre-abortion testing. Four women (0.17%) were known to have been treated for ectopic pregnancies and 12 women (0.42%) had major abortion-related adverse events such as hospital admission or surgery. Overall, 125 women (5.2%) reporting results did not initially completely abort with the chemicals given: Of those, 79 required additional intervention to complete an incomplete abortion, 46 initially had a viable embryo or fetus; and, of these, 35 then had a surgical abortion, one took additional misoprostol, and 9 had no further intervention which the authors assumed meant an ongoing viable pregnancy.

Unknown Gestational Age

It is important to note that complications from chemical abortions increase with increasing GA. Hence the original authorization was limited to the first 49 days of gestation and is still limited now to the first 70 days.

Traditionally, the first day of the LMP has been used to determine the GA, and thus the expected date of the baby's natural delivery. This assumes a woman has a regular menstrual cycle of 28 days with ovulation on the 14th day, so it does not account for irregularities in menstrual cycles, nor variations in the timing of ovulation. Nor does it consider a woman's inaccuracy in recall of LMP, so there are inaccuracies in using LMP alone to determine GA. The study by Upadhyay, et al, described in more detail under Ectopic Pregnancies below, documents one patient screened by history alone who was judged to be less than 10 weeks pregnant when mifepristone was supplied but passed a stillborn 33-week infant.[50] Infants born at this gestational age not only tend to survive, but can do so with minimal medical intervention.

The ACOG Committee Opinion "Methods for Estimating the Due Date" states, "Ultrasound measurement of the embryo or fetus in the first trimester (up to and including 13 6/7 weeks of gestation) is the most accurate method to establish or confirm gestational age."[56] In fact, ACOG acknowledges in this position paper that only approximately one-half of women accurately recall their LMP. One study of 104 women who were randomly assigned to either first or second trimester ultrasound screening found that 41.3% of women screened in the first trimester had their GA adjusted after measurement of crown-rump length.[57]

A 2012 South African study enrolling 225 women sought to determine the feasibility of using the LMP pregnancy wheel calculator to determine GA prior to chemical abortions.[58] All women were interviewed by a community health worker who recorded the LMP and calculated the GA. All women then underwent an ultrasound examination to determine their eligibility for a chemical

abortion. Researchers found that the mean GA by LMP was 5 - 9 days less than by ultrasound determination. In 12% of women, the LMP inaccurately indicated the woman was within <63 days gestation when, in fact, her GA was greater than that and she would be considered ineligible for a chemical abortion. Even for women who were very certain that their LMP was within 56 days, 3% had ultrasounds demonstrating a GA >70 days.

A systematic review of articles through October 2013 that compared LMP to ultrasound for GA dating to determine eligibility for chemical abortion was reported by Schonberg, et al. in 2014.[59] Of 318 articles identified, only five met inclusion criteria, and authors state, "Three studies reported that 2.5 - 11.8% of women were eligible for medication abortion by LMP and ineligible by U/S." Even though the researchers stated that most women (90.5 - 99.1%) in the studies "knew their LMP" and 70.8 - 90.5%" with certainty," the number of women who underestimated their gestational age using LMP ranged from 1.8 to 14.8%. Women with GA less than 63 days did have higher accuracy than those with later GAs. The authors concluded that identifying GA by LMP prior to a chemical abortion would be acceptable in women with a GA of less than 63 days, but "Further research...is needed to confirm the safety and effectiveness of providing medication abortion using LMP alone to determine GA."

This is important because Internet web sites offering prescriptions for chemical abortions rely on maternal history of LMP to determine eligibility for a chemical abortion.[60] A lawsuit was filed in the Supreme Court of New York in January 2021 against Planned Parenthood because a woman delivered a stillborn 30-week infant after having been given the chemical abortion pills without an ultrasound to document fetal age.[61] The 18-year-old woman stated she was prescribed the chemicals via a fifteen minute telehealth conference and was advised that she was six weeks pregnant based on her LMP, demonstrating the unreliability of relying upon maternal LMP to determine fetal age.

Ectopic Pregnancies

An ectopic pregnancy is one that is outside of the uterus, with the most common site being the Fallopian tube. Pregnancies occurring outside of the uterus are almost never viable. Most occur in a Fallopian tube which will rupture as long as the fetus keeps growing, causing bleeding and potential maternal death. There are factors that increase the risk for ectopic pregnancies (previous ectopic pregnancy, damage to Fallopian tubes, previous pelvic infection or surgery, advanced maternal age, and smoking), but approximately one-half of women who have an ectopic pregnancy diagnosed do not have any known risk factors.[62]

The number of women who have known risk factors for an ectopic pregnancy may actually be significantly lower. In a 10-year retrospective analysis of pregnancy-related records in a tertiary care center in Germany, of the 30,247

pregnancies, 1.05% had ectopic pregnancies.[63] Of those, only 18.15% had one or more risk factors for ectopic pregnancy.

This is important if Internet web sites offering prescriptions for chemical abortions rely on maternal history of risk factors to determine likelihood of needing an ultrasound prior to initiating the procedure. In the ACOG Practice Bulletin noted above, the paper states 2% of all pregnancies are ectopic. However, the authors acknowledge this likely underestimates the true incidence since national surveillance data had not been updated since 1992 at the time the paper was written. Despite this, the Bulletin states that between 2011 and 2013, ruptured ectopic pregnancies accounted for 2.7% of pregnancy-related deaths. A review of emergency department data published in 2020 reviewed trends in ectopic pregnancies that were diagnosed in emergency departments.[64] There were approximately 12.3 ectopic pregnancies for every 1000 live births, with an increase noted between 2006 and 2010 in all age groups. As noted in the Schummer's study discussed earlier, the rate of ectopic pregnancy increased from 0.15% to 0.22% after introduction of chemical abortion without restrictions in Canada.[65]

Symptoms of ectopic pregnancy include vaginal bleeding, abdominal pain, nausea and vomiting. These symptoms are also common with chemical abortion, and so the patient may inaccurately attribute symptoms of an ectopic pregnancy to the abortion itself rather than seeking care that could diagnose the more serious ectopic pregnancy. Ectopic pregnancies are most commonly diagnosed via ultrasound, and authors of one review article state, "Transvaginal ultrasound imaging is pivotal in diagnosing suspected ectopic pregnancy."[66] The treatment for ectopic pregnancy is often considered emergent. Therefore, to ensure the accurate diagnosis and necessary prompt treatment of ectopic pregnancy, it is crucial for the woman's health that an ultrasound is obtained as a routine component of pregnancy care, whether or not an abortion is considered.

Ectopic pregnancies can cause maternal death if not diagnosed and treated expeditiously, but with the use of ultrasound, the diagnosis is made earlier and treatment is more successful. One study showed mortality rates from ectopic pregnancy have decreased, from 1.15 per 100,000 live births in 1980 to 0.5 deaths per 100,000 live births between 2003 and 2007—a decline of 56.6%.[67] In the United States between 1980 and 2007, 876 maternal deaths were attributed to ectopic pregnancies.

However, another article that evaluated all women who were hospitalized for ectopic pregnancy in the state of Washington between 1987 and 2014 showed that hospitalizations declined from the beginning to the end of the study. [68] But mortality for the women hospitalized increased from 0.29 per 1000 women in the early years to 1.65 per 1000 women in the last years. The authors attribute this to the more skilled use of high-definition ultrasound that

made the diagnosis earlier in most women, allowing for outpatient treatment with methotrexate. It was the more severely ill women who were hospitalized and faced increased risk of mortality.

Thus, ectopic pregnancy, although rare, remains a serious and potentially life-threatening event for women in the United States and requires early diagnosis via ultrasound followed by intervention. This is less likely when a woman self-prescribes a chemical abortion without a preceding ultrasound.

Treatment of an ectopic tubal pregnancy currently involves only methods that are lethal to the embryo or fetus, whether or not treatment is provided, the embryo or fetus may die with almost no chance of live birth. If nothing is done, the Fallopian tube may rupture and hemorrhage, endangering the mother's life. There is universal agreement that, as no treatment is available at present to save both the mother and developing infant, treatment to preserve the life of the mother is ethically acceptable.

Rh Isoimmunization

Red blood cells contain surface proteins that determine an individual's blood type, such as A, B, O, and AB. The presence of the Rh protein determines whether an individual is Rh positive or Rh negative. The Rh-negative blood type is more frequent in individuals of European and North American descent (15 - 17%) compared with those from Africa and India (3 - 8%). Asians have the lowest frequency of Rh-negative blood (0.1 - 0.3%).[69]

Although the circulatory systems of the mother and unborn baby are separate, fetal red blood cells can enter the maternal circulation during obstetrical procedures. Managing spontaneous as well as elective abortions, amniocentesis, ectopic pregnancy, and delivery can cause this to occur. It is estimated that nearly 50% of women who give birth at term will experience a fetal-maternal blood exchange.[70] When Rh negative mothers are exposed to fetal Rh positive red blood cells, an immune response is often initiated by the mother that targets and destroys the fetal Rh positive blood cells, causing anemia in the unborn child. This is termed hemolytic disease of the newborn or *Erythroblastosis fetalis*. Depending upon the timing and degree of fetal-maternal hemorrhage and immune response, current and future pregnancies can be affected. Before the development of treatment with anti-D prophylaxis (RhoGAM), this condition developed in 14 - 16% of Rh-negative women and was estimated to be responsible for fetal death in 1% of pregnancies.[71]

Prophylactic treatment with anti-D immune globulin is now routinely provided to Rh-negative mothers in order to prevent Rh hemolytic disease of the newborn. In its 2017 Practice Bulletin, ACOG recommends, "All pregnant women should be tested at the time of the first prenatal visit for ABO blood group and Rh D type and screened for the presence of erythrocyte antibodies."[72] The same guidelines state "Rh D immune globulin should be given to Rh

D-negative women who have pregnancy termination, either medical or surgical." However, it would be impossible to follow either of these recommendations if a woman self-prescribes her chemical abortion, as she would not have laboratory evaluation to determine her blood type and possible need for Rh immunoprophylaxis.

AidAccess, an Internet website that offers self-managed abortion, discusses the risks of Rh isoimmunization.[73] Under FAQ, "What if you have an RH Negative blood type?," the webpage states, "If you are more than 12 weeks pregnant, we advise you to get an RH negative antiglobulin injection within 72 hours after the bleeding started when you used the abortion pills." Women who are unsure of their blood type are informed they can determine their blood type through a test at Walmart. This webpage is concerning for several reasons. First, there is the acknowledgment that some women will obtain chemical abortions after 12 weeks of pregnancy, when known risks of complications are increased. In addition, the risk of Rh isoimmunization is acknowledged on the site, even though the risks before 12 weeks gestation are minimized.

Not testing and prophylaxing with chemical abortions has the potential to cause harm to future pregnancies,[68] but studies looking at benefit of prophylaxis with abortions are limited. One systematic review screened 2649 studies of women undergoing any type of abortion who were followed for isoimmunization but the authors found only two studies worthy of full evaluation.[74] Even though the authors determined that neither study was of high quality, both studies found a small percentage of women who did not receive RhoGAM at the time of their abortion became sensitized, whereas none of those receiving RhoGAM developed antibodies. The authors concluded, "Further research is needed to define alloimmunisation and immunoglobulin benefit to update standards of care."

More recently, the Society of Family Planning published a committee consensus in which Rh testing and Rhogam are not recommended prior to spontaneous or induced "medical" or aspiration abortions prior to 12 weeks gestation, though it "may be considered at patient request as part of shared decision making process."[75]

It is possible that Rhogam is not necessary in early pregnancy loss for Rh negative women, but given the proven efficacy of a single dose of Rhogam against the severe morbidity of erythroblastosis fetalis in future pregnancies, is it not medical negligence to advocate foregoing this simple preventive measure until and unless studies show that future children are unaffected by its omission?

Infection Screening

The immune systems of pregnant women are suppressed, placing them at an increased risk of infection. In addition, some infections during pregnancy

place subsequent children at risk (i.e. Chlamydia which increases the risk of future ectopic pregnancy, HIV, etc). Uterine infections are much less likely to be diagnosed and treated when women do not receive prenatal care with appropriate testing. Prenatal screening is also an excellent way to identify and then treat women who have asymptomatic sexually transmitted diseases.

The Centers for Disease Control and Prevention (CDC) "recommends that all pregnant women get tested for HIV, hepatitis B virus (HBV), hepatitis C virus (HCV), and syphilis during each pregnancy."[76]

In addition, as ACOG notes on its informational FAQ page, most pregnant women are also tested for tuberculosis, rubella, gonorrhea, and chlamydia.[77]

Unfortunately, women who self-prescribe a chemical abortion will miss the opportunity to have these screening tests and appropriate treatment if indicated.

Anemia and Bleeding Disorders

The Practice Bulletin of The American College of Obstetricians and Gynecologists (ACOG), "Medication Abortion Up to 70 Days of Gestation" states, "The safety of medication abortion in patients with anemia is unknown because studies have excluded patients with anemia who have hemoglobin levels of less than 9.5 or 10 g/dL."[78] The bulletin acknowledges that the transfusion rates are tenfold higher for patients who undergo a chemical abortion (0.1%) compared with those who have a surgical abortion (0.01%).

In addition, the package insert for mifepristone lists "hemorrhagic disorders or concurrent anticoagulant therapy" as contraindications for its use.[79]

Therefore, basic screening for anemia and bleeding disorders would be protective for women undergoing chemical abortions.

Identification of Intimate Partner Violence, Coercion, and Trafficking Victims

Unfortunately, women who have experienced violent relationships, including intimate partner violence (IPV) and human trafficking, are at risk for unintended pregnancies, and so may seek treatment from health professionals, either for pregnancy care or induced abortion.

Women seeking abortion are at a much greater risk for having experienced physical and/or sexual abuse than are women who choose to continue their pregnancy. A prospective study of 1003 women compared 350 who presented for voluntary termination of their pregnancies with 653 women who received pregnancy-affirming prenatal care.[80] Researchers found those women who chose an elective abortion were almost three times more likely to have experienced intimate partner violence than those who chose to continue their pregnancy.

Other studies confirm that women who have unintended pregnancies and/or seek abortions are at greater risk for physical violence. The Pregnancy Risk Assessment Monitoring System provides state-specific population-based data from 14 states.[81] A review of the data for 39,348 women between 1996 and 1997 showed, "Women who had mistimed or unwanted pregnancies reported significantly higher levels of abuse at any time during the 12 months before conception or during pregnancy (12.6% and 15.3%, respectively) compared with those with intended pregnancies (5.3%)." Thus, women who did not intend to become pregnant had 2.5 times the risk of experiencing physical abuse.

A prospective cross-sectional study of 7102 pregnant women in six European countries using a validated questionnaire to assess abuse found that 19.2% of all women reported the current pregnancy was unintended.[82] The prevalence of an unintended pregnancy among women who reported recent abuse was 38.5%, three times greater than that for women who had not experienced abuse.

Human trafficking can also lead to unintended pregnancies. This is an international concern, and in the United States alone there are estimates that 400,000 individuals are so enslaved and abused.[83] Most of these victims are women and children, with the majority involved in the sex industry.

In an article reviewing the status of abortions following the decision of the U.S. Supreme Court in *Dobbs v. Jackson Women's Health Organization,* the authors state the risks to women who experience human trafficking. "Currently, there is no meaningful or effective way to prevent bad actors like disgruntled boyfriends, pimps, sex traffickers, or abusers from ordering mifepristone. Women and girls forced into sex trafficking, and those who choose to work as prostitutes, may experience forced abortion. The risk for coerced abortion using online abortifacient drugs is significant.[84]

Victims of human trafficking sometimes present to health care professionals for urgent and emergent care, with one small study showing that 28% of trafficked victims had sought health care.[85] Lederer's report in 2014, however, stated that 87.8% of victims had contact with a health care provider, the majority (63.3%) in an emergency room.[86]

In order to improve the recognition of victims of human trafficking, ACOG states in a Committee Opinion, "Obstetrician-gynecologists and other women's health care providers should be aware of human trafficking, recognize signs of human trafficking, and be prepared to assist patients who are victims or who have been victims of human trafficking."[75]

Reproductive coercion is defined as "behavior that interferes with the autonomous decision-making of a woman, with regards to reproductive health."[87] Intimate partner violence may include attempts to control a partner's reproduction, and studies have found coercion rates of 5 - 13.5% in young women attending family planning clinics.

Some states, such as Wisconsin[88] and Michigan,[89] require abortion providers to screen for reproductive coercion, but it is unclear whether this applies to chemical abortions provided via the Internet.

Those who abuse women are aware of the availability of chemical abortions and have accessed the chemicals to force their partners or victims to involuntarily abort their pregnancies. Newspaper reports documenting this phenomenon are available at the Students for Life website, updated in 2022.[90]

Women with unintended pregnancies who seek abortion services are at a greater risk for having experienced abuse. It is these women who especially would benefit from an in-person evaluation with a healthcare professional, trained to identify victims of abuse and provide appropriate resources. Women who utilize the Internet to access chemical abortions are deprived of this intervention, and abusers or traffickers may acquire the chemicals to induce abortions in unsuspecting pregnant women.

Mental Health

Data is lacking on potential mental health issues related specifically to chemical abortions or to self-managed chemical abortions. Since the woman may be alone and may observe the embryo or fetus in the toilet, self-managed abortion raises the question of increased mental health sequelae. This is an area that needs further study.

Follow-up

In order to assess the risk that women will present for emergency room services, researchers utilized a population-based longitudinal cohort of 423,000 women who obtained abortions and evaluated 121,283 emergency room visits that occurred within 30 days of the procedure.[91] They found the emergency room visits were more likely to occur after a chemical abortion than after a surgical abortion, and often the diagnosis was miscoded as a spontaneous abortion.

Given the above research that documents the need for a significant percentage of women to obtain urgent or emergent care after a chemical abortion, it is important to ask the question, "Who will provide medical or surgical services after a self-managed abortion?" Women who require such services will most likely present to an emergency room and be treated by providers who do not know them or their personal histories.

A review article in Medscape specifically states, "Medical abortion is also contraindicated in women with no access to emergency services and no partners or family to be with the patient during the heaviest bleeding times."[92]

Adolescents and Chemical Abortions

There is little research on the risks of chemical abortions in adolescents, whether they are self-managed or not. An article from Finland provides data

on 27,030 women who underwent a chemical abortion between 2000 and 2006.[93] Of these, only 3024 were performed in adolescents. The researchers state that the adolescents had a higher rate of chlamydia infections (5.7% versus 3.7% in adults), but the risk of bleeding, incomplete abortion and need for follow up surgical procedures were lower in the adolescent patients.

It is important to note that this study does not provide details regarding the clinical evaluation (examination, laboratory evaluation, and ultrasound) provided to each patient before the abortion procedure. However, given the fact that women were evaluated for Chlamydia infections, it can be assumed that patients were evaluated in a clinic setting prior to the procedure.

Additional Risks of Abortion

Discussion of other long-term risks of induced abortion (such as increased maternal morbidity and mortality compared to childbirth over the following decade) is beyond the scope of this paper. For further information, see related position papers from the American College of Pediatricians.

When Human Life Begins:
https://acpeds.org/position-statements/when-human-life-begins

Risks of induced abortion: https://acpeds.org/position-statements/induced-abortion-risks-that-may-impact-adolescents-young-adults-and-their-children

Risk of breast cancer:
https://acpeds.org/position-statements/reproductive-choices-of-young-women-affecting-future-breast-cancer-risk

Abortion Pill Reversal

Women should be made aware that it is possible to reverse the effects of mifepristone should they change their mind about pursuing the abortion within 24-72 hours of taking mifepristone and prior to taking misoprostol. This is accomplished by using high dose progesterone to overcome the blocking effects of mifepristone.[94] Abortion providers are claiming this protocol is non-efficacious and unproven, and are strongly opposing its use. The ACOG practice bulletin from 2020 on "medication" abortions claims there is no evidence that prescribing progesterone increases the rate of continuing pregnancies after mifepristone alone when a woman changes her mind after taking mifepristone, but their sole reference for making this statement is a 2015 article that cites a single paper with a case series of only 7 patients.[95,96]

A 2020 paper written by the Bixby Center for Global Reproductive Health from the University of California, San Francisco reviews the timeline of research done on abortion pill reversal protocols and discusses a more pertinent paper that the ACOG Bulletin ignored.[97] The observational case series of 754 women reported by Delgado demonstrated a reversal rate of 64-68% with no

apparent increased risk of birth defects in the children.[83] In comparison, this paper also cites older studies of pregnancy survival when mifepristone was used as the only abortive medication. The survival rates ranged from 8-25%, much lower than the 64-68% survival the researchers achieved with IM and high dose oral progesterone rescue. For statistical purposes, the researchers used the highest historical number, 25% without progesterone, as the control. One of the primary purposes of the study was to discover the most efficacious route and dose of the progesterone. Success rates varied from 32% (vaginal suppositories, non-significant) to 68% (high dose oral progesterone) with all other routes and doses significant ($p<.001$). The study consisted of 764 women who contacted a hotline after regretting starting a chemical abortion. Of these, 38 women (5%) did not meet study criteria (either over 72 hours since taking mifepristone or had already taken misoprostol); 57 women (8%) chose to complete the abortions, and 112 (15%) were lost to follow-up before 20 weeks gestation. So the Delgado study actually involved and analyzed 547 women who took progesterone to attempt to salvage their pregnancies after starting a chemical abortion.

This paper has been criticized for several reasons, including the number of women lost to follow-up (15%).[86,98] Although this is a limitation, it is actually a lower percentage than noted in most other research studies evaluated in this paper. Other criticisms of the paper involved the lack of an institutional review committee, the lack of a comparison group, and "lack of safety studies." In fact, the study did receive an Institutional Review Board waiver, and the comparison group was an historical one, with the historical rate of 23% ongoing pregnancies after mifepristone alone cited in the ANSIRH Issue Brief. The authors of the Delgado paper believed it would be unethical to use a prospective case control study which would necessitate withholding a potentially lifesaving medication from the women requesting it and cited progesterone's over 50 year record of safety in pregnant women and its approval in pregnancy by the American Society of Reproductive Medicine.

The Delgado study was designed to evaluate the most efficacious route and dose of progesterone. While the overall survival rate was 48% (approximately twice the historical control rate with mifepristone alone), all doses and routes except vaginal suppositories significantly enhanced fetal survival. High dose oral progesterone (400 mg bid x 3 days then at bedtime through the first trimester) had a 68% survival and IM progesterone (200 mg IM for 3 days then every other day for 7 or more days) had a 64% survival and was most efficacious with 6 or more injections.

The 2018 Delgado study was an encouraging start, and ACPeds looks forward to a larger, more in-depth study in the near future. Meanwhile, ACPeds supports the use of this life-saving treatment for women who decide to choose life after starting a chemical abortion.

Conclusion

Induced abortions, whether chemical or surgical, can have serious complications that include hemorrhage, infection, and incomplete abortion. These complications may be increased when women self-administer chemical abortion drugs without benefit of an in-person evaluation by a provider. In addition, the failure to accurately evaluate GA, the failure to diagnose ectopic pregnancy with an ultrasound, and the lack of medical testing to screen for Rh status and sexually transmitted infections could potentially increase the risk associated with such self-managed abortions. Finally, without an in-person exam when the pills are dispensed and first dose taken, there is no way to assure that the person requesting the abortifacient is the same person who will be taking it, which could facilitate sexual abuse/trafficking. Women of childbearing age should be made aware of these risks, as well as the potential to reverse the deadly intent of chemical abortions.

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