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Analysis of Medication Abortion Risk and the FDA report "Mifepristone U.S. Post-Marketing Adverse Events Summary through 12/31/2018"

Summary

The FDA report "Mifepristone U.S. Post-Marketing Adverse Events Summary through 12/31/2018" includes adverse events associated with the use of mifepristone, regardless of their likelihood of being causally linked to the abortion.[1] Over 3.7 million US women have used medication abortion with mifepristone and misoprostol since Mifeprex (mifepristone 200 mg) was first approved by the US Food and Drug Administration (FDA) in 2000. Since then, the safety of the treatment has been reaffirmed by rigorous research that supplements monitoring data from the FDA.

Understanding medication abortion complications as published by the FDA

As of December 2018, the FDA reports that 24 women, out of approximately 3.7 million, have died after taking mifepristone for medication abortion. However, as the FDA notes, "The adverse events cannot with certainty be causally attributed to mifepristone because of concurrent use of other drugs, other medical or surgical treatments, co-existing medical conditions, and information gaps about patient health status and clinical management of the patient." Among these 24 deaths:

- 13 cases are probably or possibly related to the abortion, including:
  - 8 cases of Clostridium-related sepsis
  - 1 case of delayed onset toxic shock-like syndrome
  - 1 case of hemorrhage
  - 2 cases of ruptured ectopic pregnancy
  - 1 case where the cause of death was unclear
- 11 cases appear to be unrelated to the abortion, including:
  - 6 cases of drug or substance use, intoxication and/or overdose
  - 3 cases of confirmed or suspected homicide
  - 1 case of suicide
  - 1 natural death due to severe pulmonary emphysema

Based on this, the overall mortality rate associated with medication abortion is 0.65 deaths per 100,000 medication abortions (24 deaths/3.7 million medication abortion cases). This mortality rate is similar to that reported for abortion overall (0.7 deaths per 100,000 procedures).[2] If only the cases that appear to be related to the abortion are included, the mortality rate is 0.35 deaths per 100,000 medication abortions (13 deaths/3.7 million medication abortion cases).

Because it is mandatory to report any death among someone who used mifepristone and because the US Centers for Disease Control and Prevention has an active surveillance program to monitor abortion-related deaths,[2] these reports capture information about all possible deaths related to medication abortion.

The FDA also published the number of cases of hospitalization and other complications (some already counted in the hospitalization cases) reported to them among women using medication abortion. However, unlike for deaths, there is no active surveillance program, so this report should not be considered as conclusive. We do know that serious complications are rare with medication

abortion. The most rigorous study of medication abortion safety included data from 11,319 Medi-Cal patients in California.[3] In this study, only 35 (0.31%) had a major complication, defined as hospitalization, blood transfusion, or surgery.

Other reports and FDA approvals highlighting the safety of medication abortion

The FDA conducted a rigorous review of research from the United States and other countries to assess the safety profile before it approved mifepristone in 2000. The safety of medication abortion has been highlighted repeatedly since then:

- In 2016, the FDA approved an updated label for mifepristone that allowed for using medication abortion later in pregnancy (up to 10 weeks from last menstrual period) and simplified the drug regimen. It also removed the requirement that all serious adverse events be reported to the agency and now only requires that deaths be reported.[4]
- In 2018, the US Government Accountability Office published a report that evaluated the process that FDA used when it updated the mifepristone label. The report concluded that the agency used its standard review process to incorporate the best available evidence into the updated label. [5]
- In 2018, the National Academies of Sciences, Engineering, and Medicine released a report that highlighted the safety and effectiveness of medication abortion.[6]
- In April 2019, the FDA approved a generic form of mifepristone for medication abortion, which gave the agency another opportunity to review the safety of the treatment.[4]

Understanding risk

Unfortunately, pregnancy can be risky, and women are also at risk of dying if they choose to continue their pregnancy to term. Nationally, the pregnancy-related mortality ratio is 18 deaths per 100,000 live births, and it is even higher for Black women—40 deaths per 100,000 live births.[7] The mortality rate for women known to have had a live-born infant is 8.8 per 100,000 live births,[8] which is about 14 times higher than the mortality rate associated with medication abortion.

Other medications that are commonly prescribed or administered in outpatient settings also have risks, including a small risk of death. Penicillin causes a fatal anaphylactic reaction at a rate of 2 deaths per 100,000 patients administered the drug.[9] Phosphodiesterase type-5 inhibitors, which are used for erectile dysfunction and include Viagra, have a fatality rate of 4 deaths per 100,000 users.[10] These risks are several times higher than the risk of death with medication abortion. Acetaminophen (Tylenol) overdose is the most common cause of acute liver failure in the U.S. and accounts for over 600 deaths annually.[11]

Conclusion

Medication abortion with mifepristone and misoprostol is very safe and effective. The safety profile is similar to that of vacuum aspiration abortion, and medication abortion is safer than continuing a pregnancy to term or using other common medications.

References

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