Student's Name

Instructor's Name

Course

Date

Estrogen Replacement Therapy: Benefits and Risks

Menopause describes the phases of transition through which a woman's hormonal levels decrease leading to the complete loss of reproductive capabilities, typically between the ages of 40 to 58 years old (Romm et al. 455, 456). The three phases include perimenopause, menopause, and post-menopause. The perimenopause period includes the period of 2 to 8 years before the complete termination of menstruation during which the menstrual cycles become irregular and scarce. The complete cessation of menstruation (amenorrhea) for a consistent period of 12 months signifies the menopause period. The most common symptoms that occur during the perimenopause phase include experiencing hot flashes, fatigue, insomnia, depression, vaginal dryness, among other issues. Lowered endogenous estrogen levels are largely responsible for vaginal dryness, which can lead to uncomfortable sexual experiences that affect the physical and psychological well-being of the woman.

Estrogen replacement therapy (ERT) is a collective term for the treatment of menopausal symptoms using estrogen therapy, a combination of estrogen and progesterone treatment, and estrogen receptor agonist or antagonist therapy. The vasomotor symptoms (VMS), the hot flashes, night sweats, heart palpitations, and anxiety are the most common complaints among women in the perimenopause stage. Other symptoms associated with drastic hormonal changes during menopause are vulvovaginal such as vagina atrophy, which causes dryness, heavy vaginal bleeding, vulvar pain, and difficulty during sexual activity. VMS has been linked to reduced

quality of life and increased cardiovascular risk, bone fragility, and cognitive impairment. ERT has the most widely used treatment for VMS. This section of the paper will briefly discuss the effectiveness of ERT in treating menopausal symptoms and the associated long-term and short-term risks.

BENEFITS OF ERT

Studies indicate that ERT can improve the quality of life for women in early menopause phase at low doses. Gambacciani et al. (161), in their study, concluded that a combination of estrogen and progesterone therapy had clinical efficacy in treating VMS as such as hot flushes. Hormonal replacement therapy is primarily responsible for alleviating symptoms directly linked to hormonal changes such as VMS, anxiety, and sexual issues. ERT is also considered the most effective treatment in managing severe cases of vaginal atrophy when applied in a combination of low dose local vaginal ERT and oral regimen (Gambacciani et al. 161). In aiding vulvovaginal symptoms, ERT has been shown to improve the sexual life of menopausal women by increasing blood flow, lubrication, and sensation in the vaginal tissues (Gass et al. 1168).

Research demonstrates a close relationship between ERT and a reduction in hip, spine, and non-vertebral fractures among osteoporotic women when it is administered in standard dosage (Wells et al. 532). The study also shows that in low dosage, ERT enhances bone mineralization and improves bone mass. ERT treatment improved the bone density and prevented bone loss in the two-years of therapy of low-dose regimen after which a higher dosage was required.

ERT has been linked to a lowered risk of developing cardiovascular disease (CHD) in women (Mosca 2263). During menopause, cholesterol levels in the body increase due to an increase in low-density lipoproteins (LDLs) and a slight decrease in high-density lipoprotein

(HDL). High-density lipoproteins aids in eliminating cholesterol form extra-hepatic tissues and lowers apolipoproteins that have been linked with coronary heart disease and thrombotic stroke (Mosca 2264). Estrogen therapy use lowers LDLs and increases HDLs in blood, therefore, having an overall effect of reducing modifiable risk factors for coronary heart disease in menopausal women.

## RISKS ASSOCIATED WITH ERT

Antagonistic estrogen therapy in women with an intact uterus has been linked to an increased risk of endometrial cancer with relation to the duration of usage and dosage (The North American Menopause Society 265). Endometrial hyperplasia may develop among women who have not undergone a hysterectomy with prolonged usage of estrogen exceeding one year. Prolonged use of ERT for up to 10 years increases the risk of endometrial cancer persisting even after discontinuation of use. In women with an intact uterus, ERT therapy is coupled with progestin (progesterone indication). Prolonged ERT is also associated with an increased diagnosis of breast cancer. According to Chlebowski et al., the incidence of breast cancer increases with the prolonged use of estrogen plus progestin therapy for five years (3248). Estrogen and progestin therapy increase breast density, which could give an abnormal mammographic result. The study suggests that prolonged usage of ERT could yield a negative breast cancer prognosis due to the increase in tumor size following elevated breast density (Chlebowski et al. 3250).

## RECOMMENDATIONS AND CONCLUSION

The effective use of ERT is hinged on individualized treatment plans considering the medical history, health risk factors, and quality of life priorities of the woman. Numerous studies indicate that ERT, the formulation of the therapy, for instance, estrogen in combination with

progesterone, duration of treatment, dosage, and route of delivery determine the effects of ERT regimen. For this case, the patient's age and symptoms suggest early onset menopause indicating the likelihood of estrogen-related bone fragility. ERT in low dosage may alleviate bone loss, reducing the risk of osteoporotic fractures. If the woman is healthy and her symptoms are only limited to mild VMS and vulvovaginal symptoms, a low-dosage of ERT would be beneficial for prolonged treatment for 7 years.

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