

Hormonal Therapy

Hormones are proteins or chemicals produced by the body that regulate the function of cells. Hormone therapy is most commonly used to treat breast and prostate cancers. It can slow or halt the progression of these cancers as well as a few other tumours. The hormones targeted by hormone therapy circulate throughout the body. Men and women experience different set of side effects when subjected to hormone therapy. The type of hormone therapy a patient receives may affect the patient's side effects. Hormone therapy was once widely used during menopause, but it may not be safe or acceptable for everyone, especially those with specific risk factors. However, the individual's overall health and preferences may play a role in the decision

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Introduction

Hormones are proteins or chemicals produced by the body that help to regulate the function of specific types of cells. Some parts of the body, for example, are dependent on sex hormones like oestrogen, testosterone, and progesterone to function properly. Thyroid hormones, cortisol, adrenaline, and insulin are among the other hormones found in our bodies. Various organs or glands produce different kinds of hormones. Hormones are required for the growth of some cancers. As a result, hormone-blocking or -altering treatments may often help slow or halt the progression of these cancers. Hormone therapy, also known as hormonal therapy or endocrine treatment, is a method of treating tumours with hormones [1]. Hormone therapy is most commonly used to treat breast and prostate cancers that rely on sex hormones to develop. Hormone therapy may also be used to cure a few other tumours. Because the hormones targeted by hormone therapy circulate throughout the body, it is considered a systemic treatment. Hormone therapy drugs travel within the body in order to target and locate hormones. This distinguishes it from treatments that target a single body part, such as most kinds of surgery and radiation therapy. These types of therapies are known as local treatments because they only affect one part of the body.

Hormones can also accelerate the growth of some cancers (such as prostate and breast cancer). Synthetic hormones or other medications may be offered to block the body's natural hormones, or surgery may be used to remove the gland that produces a specific hormone to slow or stop cancer development. Endocrine therapy, hormonal therapy, and hormone treatment are all terms for the same thing [2].

Hormone therapy is divided into various categories. Here are a few examples of tumours that they may be used to treat:

Hormone Therapy for Breast Cancer

Hormone receptor-positive breast cancer accounts for about two out of every three cases. Their cells have oestrogen (ER-positive cancers) and/or progesterone (PR-positive cancers) receptors (proteins) that help the cancer cells expand and spread. Hormone therapy for breast cancer comes in a variety of forms. Hormone therapy reduces oestrogen levels or prevents oestrogen from acting on breast cancer cells in most cases [3].

Hormone Therapy for Prostate Cancer

The aim is to lower or stop male hormones, known as androgens, from fueling prostate cancer cells in the body. Androgens promote the growth of breast cancer cells. Testosterone and Dihydrotestosterone (DHT) are the two most important androgens in the body. The testicles produce the majority of androgen, but the adrenal glands (glands located above the kidneys) and prostate cancer may also produce a significant amount. For a period of time, lowering androgen levels or preventing them from entering prostate cancer cells causes prostate cancers to shrink or expand more slowly. Hormone therapy, on the other hand, does not cure prostate cancer [4].

Hormone Therapy for Endometrial Cancer

Hormones or hormone-blocking drugs are used to treat chemotherapy in this type of therapy. It's not the same as

hormone therapy, which is used to alleviate menopausal symptoms (Menopausal Hormone Therapy). It is most commonly used to treat advanced endometrial cancer (stage III or IV) or endometrial cancer that has returned after treatment (recurred). Chemotherapy is often combined with hormone therapy. Endometrial cancer can be treated with hormones in the following ways: Progestins (This is the main hormone treatment used.), Tamoxifen (drug that is used to treat breast cancer), Aromatase Inhibitors (AIs), and Luteinizing Hormone-Releasing Hormone agonists (LHRH agonists). There is no single type of hormone therapy that has been proven to be the most effective for endometrial cancer at this time [5].

Hormone Therapy for Adrenal Cancer

Other drugs, in addition to mitotane, may be used to block or reduce the effects of hormones produced by the cancer. Because these drugs affect many hormone systems and may necessitate the replacement of other hormones, treatment with some of them may require the supervision of an endocrinologist. Metyrapone and ketoconazole can suppress the production of adrenal steroid hormones. This will help with the symptoms that these hormones cause, but it will not shrink the cancer [6].

Hormonal Therapy can be administered through 3 major ways:

1. Oral drugs
2. Injectable drugs
3. Surgery to remove hormone-making organs

Side Effects of Hormonal Therapy

The type of hormone therapy a patient receives, as well as other factors, may affect the patient's side effects. When making treatment decisions, it's critical to be aware of potential side effects. It's also crucial to weigh the advantages and disadvantages of any treatment. Men and women experience different set of side effects when subjected to hormonal therapy [7].

The possible side effects for men receiving hormone therapy for prostate cancer: Hot flashes, Lower sexual arousal, Erectile dysfunction, Exhaustion, Weight gain (especially around the stomach) combined with a loss of muscle mass, Memory issues, Increased risk of developing other health issues, etc.

For women receiving hormone treatment for breast or endometrial cancer, hot flashes, vaginal discharge, dryness, or itching are all possible side effects. Sexual longing has dwindled. Nausea, fatigue, muscle and joint aches and pains, fractures are more likely as a result of bone loss. Other forms of cancer, stroke, blood clots, cataracts, and heart disease are also at a higher risk.

Conclusion

Hormone therapy was once commonly used treatment method, but it may not be safe or appropriate for everyone, particularly those with unique risk factors. Hormone therapy is safe to use for moderate-to-severe hot flashes and vaginal dryness up to the age of 59 within 10 years of menopause at the lowest possible dose and for the shortest possible period. However, the decision should be influenced by the individual's overall wellbeing and preferences.

Executive summary

Hormones are proteins or chemicals produced by the body that regulate the function of cells. Hormone therapy is most commonly used to treat breast and prostate cancers. It can slow or halt the progression of these cancers as well as a few other tumours. The hormones targeted by hormone therapy circulate throughout the body. Men and women experience different set of side effects when subjected to hormone therapy. The type of hormone therapy a patient receives may affect the patient's side effects. Hormone therapy was once widely used during menopause, but it may not be safe or acceptable for everyone, especially those with specific risk factors. However, the individual's overall health and preferences may play a role in the decision.

References

1. <https://www.cancer.gov/publications/dictionaries/cancer-terms/def/hormone-therapy>
2. <https://www.cancer.org/treatment/treatments-and-side-effects/treatment-types/hormone-therapy.html>
3. <https://www.cancer.org/cancer/breast-cancer/treatment/hormone-therapy-for-breast-cancer.html>
4. <https://www.cancer.org/cancer/prostate-cancer/treating/hormone-therapy.html>
5. <https://www.cancer.org/cancer/endometrial-cancer/treating/hormone-therapy.html>
6. <https://www.cancer.org/cancer/adrenal-cancer/treating/other-drugs.html>
7. <https://www.medicalnewstoday.com/articles/181726#takeaway>