clomiPHENE (kloe-mi-feen)
Classification
Therapeutic: ovulation inducer
Pregnancy Category X

Indications
Induces ovulation in anovulatory women who desire pregnancy. Requires intact anterior pituitary, thyroid, and adrenal function. Unlabeled Use: Male infertility due to oligospermia.

Action
Stimulates release of pituitary gonadotropins, follicle-stimulating hormone, and luteinizing hormone, resulting in ovulation and the development of the corpus luteum.

Therapeutic Effects:
Induction of ovulation.

Pharmacokinetics
Absorption: Well absorbed following oral administration.
Distribution: Unknown.
Metabolism and Excretion: Metabolized by the liver, with enterohepatic recirculation. Excreted in feces.
Half-life: 5–7 days.

TIME/ACTION PROFILE (ovulation)
ROUTE ONSET PEAK DURATION
PO 5–14 days unknown unknown

Contraindications/Precautions
Contraindicated in:
Liver disease or history of liver dysfunction; Enlargement or development of ovarian cysts (not due to polycystic ovarian syndrome); Pregnancy; Uncontrolled thyroid or adrenal dysfunction; Pituitary tumor; Abnormal uterine bleeding of unknown origin.
Use Cautiously in:
Endometriosis; Fibroids; Known sensitivity to pituitary gonadotropins (e.g. polycystic ovary syndrome).

Adverse Reactions/Side Effects
CNS:
headache. EENT:
blurred vision, floaters, photophobia, scotomata, phosphenes. CV:
hot flashes. GI:
abdominal pain, bloating, distention, nausea, vomiting, liver enzymes. Endo:
ovarian cyst formation, ovarian enlargement, breast discomfort, multiple births, threatened abortion, ovarian hyperstimulation syndrome, abnormal menstrual flow. Metabolic:
weight gain.

Interactions
Drug-Drug:
None significant.

Route/Dosage
Ovulatory Failure (Females)
PO (Adults): 50 mg/day for 5 days (begin on or about 5th day of cycle); if ovulation does not occur, a second course of 100 mg/day for 5 days may be given 30 days after the initial course. A maximum of 3 courses may be administered. A dose above 100 mg/day for 5 days not recommended.

Male Infertility
PO (Adults): 25 mg/day for 25 days with 5 days rest or 100 mg every Monday, Wednesday, and Friday.

NURSING IMPLICATIONS
Assessment
● Perform a pelvic examination to determine ovarian size and presence of ovarian cysts prior to therapy and before subsequent courses of therapy.
● An endometrial biopsy is recommended in older patients prior to clomiphene therapy to rule out the presence of endometrial carcinoma.
● Assess patient for abdominal pain throughout therapy. Occurrence requires immediate pelvic examination to determine ovarian enlargement or cyst formation. If these occur, discontinuation therapy until ovaries have returned to pretreatment size, usually within a few days to weeks. Dose and duration of next course should be decreased.
● If 5 ovulatory responses occur without achievement of pregnancy, further treatment with clomiphene is not recommended.
● Lab Test Considerations: Estradiol, progesterone, luteinizing hormone, follicle-stimulating hormone, and thyroid function studies.

NURSE-PHARMacist INTERPRETATION
Clomiphene is a nonsteroidal estrogen oral medication. Its mechanism of action involves stimulation of pituitary gonadotropins, follicle-stimulating hormone, and luteinizing hormone, resulting in ovulation and the development of the corpus luteum. It is primarily used for the induction of ovulation in anovulatory women who desire pregnancy. Unlabeled use includes male infertility due to oligospermia. Clomiphene is contraindicated in patients with liver disease, history of liver dysfunction, enlarged or developing ovarian cysts (not due to polycystic ovarian syndrome), pregnancy, uncontrolled thyroid or adrenal dysfunction, pituitary tumor, and abnormal uterine bleeding of unknown origin. It is used cautiously in patients with endometriosis, fibroids, or known sensitivity to pituitary gonadotropins. Common adverse effects include headache, blurred vision, photophobia, scotomata, phosphenes, hot flashes, abdominal pain, bloating, distention, nausea, vomiting, and liver enzyme elevation. Metabolic effects such as weight gain may also occur. The drug is metabolized by the liver and excreted in feces, with a half-life of 5–7 days. For ovulatory failure, the recommended dose is 50 mg/day for 5 days (beginning on or about the 5th day of the cycle) if ovulation does not occur, a second course of 100 mg/day for 5 days may be given 30 days after the initial course. A maximum of 3 courses may be administered. For male infertility, the recommended dose is 25 mg/day for 25 days with 5 days rest or 100 mg every Monday, Wednesday, and Friday. Clomiphene interacts with other drugs but no significant drug-drug interactions have been identified. Monitoring for adverse effects and efficacy is important during therapy.
of pregnanediol may be used to determine whether ovulation has occurred follow-
ing a course of clomiphene.

Liver function tests should be performed prior to course of therapy.

Immunologic assay for human chorionic gonadotropin (HCG) should be used to
determine pregnancy if menses do not occur prior to each course of treatment with
clomiphene.

Potential Nursing Diagnoses
Deficit knowledge, related to medication regimen (Patient/Family Teaching)

Implementation

Do not confuse Serophene (clomiphene) with Sarafem (fluoxetine).

Clomiphene therapy is usually begun on the 5th day of the menstrual cycle.

Patient/Family Teaching

Instruct patient to take clomiphene exactly as directed at the same time each day.

Missed doses should be taken as soon as remembered and the dose doubled if not
remembered until the time of the next dose. Notify health care professional if more
than one dose is missed.

Advise patient that conception should be attempted with intercourse every other
day starting 48 hr prior to ovulation. Ovulation usually occurs 7 days (range 5–
10) after last dose of clomiphene.

Instruct patient in the correct method for measuring basal body temperature. A
record of the daily basal body temperature should be maintained prior to and
throughout course of therapy. Emphasize the importance of compliance with all
aspects of therapy.

Prior to therapy, patient should be informed of the potential for multiple births.

Medication may cause visual disturbances or dizziness. Caution patient to avoid
driving until the response to the medication is known.

Instruct patient to notify health care professional immediately if pregnancy is sus-
pected; clomiphene should not be taken during pregnancy.

Advise patient to notify health care professional promptly if bloating, stomach or
pelvic pain, blurred vision, headache, weight gain, or nausea and vomiting occur.

Why was this drug prescribed for your patient?

Emphasize the importance of close monitoring by health care professional
throughout therapy.

Evaluation/Desired Outcomes

Occurrence of ovulation measured by estrogen excretion, biphasic body tempera-
ture curve, urinary excretion of progesterone at postovulatory levels, and endo-
mstatic histologic changes. If conception is not achieved after 3 courses of clom-
iphene, diagnosis should be re-evaluated.