Gynecomastia, Pediatric

Gynecomastia is swelling of the breast tissue in male infants and boys. It is caused by an imbalance of the hormones estrogen and testosterone. Boys going through puberty can develop temporary gynecomastia from normal changes in hormone levels. Much less often, gynecomastia is caused by one of many possible health problems.

Gynecomastia is not a serious problem unless it is a sign of an underlying health condition. Boys with gynecomastia sometimes have pain or tenderness in their breasts. They may feel embarrassed or ashamed of their bodies.

In most cases, this condition will go away on its own. If it is caused by medications or illicit drugs, it usually goes away after they are stopped. Occasionally, this condition may need treatment with medicines that help balance hormone levels. In a few cases, surgery to remove breast tissue is an option.

SYMPTOMS

Signs and symptoms of may include:

- Swollen breast gland tissue.
- Breast tenderness.
- Nipple discharge.
- Swollen nipples (especially in adolescent boys).

There are few physical complications associated with temporary gynecomastia. This condition can cause psychological or emotional trouble caused by appearance. Although rare, gynecomastia slightly increases a risk for breast cancer in males.

CAUSES

In most cases, gynecomastia is triggered by an imbalance in the hormones testosterone and estrogen. Several things can upset this hormone balance, including:

- Natural hormone changes.
- Medications.
- Certain health conditions.

In about ¼ of cases, the cause of gynecomastia is never found.

Hormone balance

The hormones testosterone and estrogen control the development and maintenance of sex characteristics in both men and women. Testosterone controls male traits such as muscle mass and body hair. Estrogen controls female traits including the growth of breasts.

Most people think of estrogen as a female hormone. Males also produce estrogen though normally in small amounts. In males, it helps regulate:

- Bone density.
- Sperm production.
- Mood.

It may also have an effect on cardiovascular health. But male estrogen levels that are too high, or are out of balance with testosterone levels, can cause gynecomastia.

In infants

Over half of male infants are born with enlarged breasts due to the effects of estrogen from their mothers. The swollen breast tissue usually goes away within 2-3 weeks after birth.

During puberty

Gynecomastia caused by hormone changes during puberty is common. It affects over half of teenage boys. It is especially common in boys who are very tall or overweight. In most cases, the swollen breast tissue will go away without treatment within a few months. In a few cases, the swollen tissue will take up to two or three years to go away.

Medications

A number of medications can cause gynecomastia. Of the following medicines, only antibiotics are commonly used in children. These include:

- Medicines that block the effects of natural hormones called androgens. These medicines may be used to treat certain cancers. Examples of these medicines include:
  - Cyproterone.
  - Flutamide.
  - Finasteride.
- AIDS medications. Gynecomastia can develop in HIV-positive men on a treatment regimen called highly active antiretroviral therapy (HAART). It is especially common in men who are taking efavirenz or didanosine.
- Anti-anxiety medications such as diazepam (Valium).
- Tricyclic antidepressants.
- Antibiotics.
- Ulcer medication such as cimetidine (Tagamet).
- Cancer treatment (*chemotherapy*).
- Heart medications such as digitalis and calcium channel blockers.

Street drugs and alcohol

Substances that can cause gynecomastia include:

- Anabolic steroids and androgens gynecomastia occurs in as many as half of athletes who use these substances.
- Alcohol.
- Amphetamines.
- Marijuana.
- Heroin.

Health conditions

Several health conditions can cause gynecomastia. These include:

- Hypogonadism. This is a term indicating male genital size that is much smaller than normal. Conditions that cause hypogonadism interfere with normal testosterone production. These conditions (such as Klinefelter's syndrome or pituitary insufficiency) can also be associated with gynecomastia.
- Tumors. Some tumors in children alter the male-female hormone balance. These tumors usually involve the:
  - Testes.
  - Adrenal glands.
  - Pituitary.
  - Lung.
  - Liver.
- Hyperthyroidism. In this condition, the thyroid gland produces too much of the hormone thyroxine. This can lead to alterations in testosterone and estrogen that cause gynecomastia.
- Kidney failure.
- Liver failure and cirrhosis.
- HIV. The human immunodeficiency virus that causes AIDS can cause gynecomastia. As noted above, some medicines used in the treatment of HIV also can cause gynecomastia.
- Chest wall injury.
- Spinal cord injury.
- Starvation.

DIAGNOSIS

- Your child's caregiver will:

- Gather a medical history.
- Consider the list of medicines your child is taking.
- Gather a family history of health problems.
- Perform an examination that includes the breast tissue, abdomen and genitals.

- Your child's caregiver will want to be sure that breast swelling is actually gynecomastia and not a different condition. Other conditions that can cause similar symptoms include:
  - Fatty breast tissue. Some boys have chest fat that resembles gynecomastia. This is called pseudogynecomastia or false gynecomastia. It is not the same as gynecomastia.
  - Breast cancer. This is rare in boys. Enlargement of one breast or the presence of a discrete firm nodule raises the concern for male breast cancer.
  - A breast infection or abscess (*mastitis*).
- Initial tests to determine the cause of your child's gynecomastia may include:
  - Blood tests.
  - Mammograms.
- Further testing may be needed depending on initial test results, including:
  - Chest X-rays.
  - Computerized tomography (CT) scans.
  - Magnetic resonance imaging (MRI) scans.
  - Testicular ultrasounds.
  - Tissue biopsies.

TREATMENT

- Most cases of gynecomastia get better over time without treatment. In a few cases, this condition is caused by an underlying condition which needs treatment. Most frequently, the underlying cause is hypogonadism.
- If medicines are being taken that can cause gynecomastia, your caregiver may recommend stopping them or changing medications.
- In adolescents with no apparent cause of gynecomastia, the doctor may recommend a re-evaluation every six months to see if the condition improves on its own. In 90 percent of teenage boys, gynecomastia goes away without treatment in less than three years.
- Medications
- In rare cases, medicines used to treat breast cancer and other conditions may be helpful for some boys with gynecomastia.
- Surgery to remove excess breast tissue.
- Surgical treatment may be considered if gynecomastia does not improve on its own, or if it causes significant pain, tenderness or embarrassment. Two types of surgery are available to treat this condition:
  - Liposuction - This surgery removes breast fat, but not the breast gland tissue itself.
  - Mastectomy -. This type of surgery removes the breast gland tissue. Only small incisions are used. The technique used is less invasive and involves less recovery time.

SEEK MEDICAL CARE IF:

- There is swelling, pain, tenderness or nipple discharge in one or both breasts.
- Medicines are being taken that are known to cause gynecomastia. Ask your child's caregiver about other choices.
- There has been no improvement in 5-6 months.

SEEK IMMEDIATE MEDICAL CARE IF:

- Red streaking develops on the skin around a nipple and/or breast that is already red, tender, or swollen.
- Fever of 102° F (38.9° C) develops.
- Skin lumps develop in the area around the breast and/or underarm.
- Skin breakdown or ulcers develop.

Document Released: 10/14/2008 Document Re-Released: 09/26/2009
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