Enlarged breast tissue in men linked to heightened risk of death

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Men with enlarged breast tissue, not caused by excess weight—a condition formally known as gynecomastia—may be at heightened risk of an early death before the age of 75, suggests the first study of its kind,

published online in the open access journal *BMJ Open.*

Those with a pre-existing risk factor, such as cancer or circulatory, lung, and gut diseases before diagnosis seem to be most vulnerable, the findings indicate.

Enlarged breast tissue in men is usually caused by a hormone imbalance and affects around a third to around two-thirds of men, depending on age. It is distinct from what is often dubbed 'man boobs' (pseudogynecomastia), usually associated with overweight/obesity.

The development of gynecomastia can occur at any age, but has three distinct peaks across the life course, prompted by pronounced changes in sex hormone levels in the neonatal period, during puberty, and at older ages, note the researchers.

It is most common at older ages, however, as testosterone levels decline, and is often accompanied by weight gain, which in turn can make it worse.

Previously published research indicates a link between the condition and a heightened risk of past and future risk of ill health. But it's not clear if gynecomastia is similarly associated with a heightened risk of death.

To try and find out, the researchers drew on data from Danish national health and population registries: 23,429 men were diagnosed with gynecomastia between 1 January 1995 and 30 June 2021. Just over 44% were aged between 19 and 40 at diagnosis.

They were each matched by age and date of diagnosis with five randomly selected men without the condition (117,145; the reference group), adding up to a total of 140,574.

The men with gynecomastia were further divided into two groups: those with idiopathic (unknown cause) gynecomastia (16,253); and those with a known pre-existing condition or taking medication associated with gynecomastia (7,176).

They were all monitored from the date of study entry to death or the end of June 2021, whichever came first. In all, 12, 676 (9%) men died during the monitoring period.

Among those with gynecomastia, 1,093 (nearly 7%) with the condition of unknown cause and 1,501 (21%) of those with a pre-existing risk factor died, compared with 10,532 (9%) deaths among the men without gynecomastia.

This equates to a 37% higher risk of early death from any cause among those with gynecomastia than among those without the condition.

But when stratified by group, the risk of death was highest in those with a known pre-existing condition among whom the odds were 75% higher than those with gynecomastia of unknown cause among whom the odds were 5% higher.

Pre-existing cancers (74% heightened risk) and circulatory (61% heightened risk), lung (double the risk), and gut diseases (five-fold heightened risk) were associated with the greatest risks. But neurological disease was associated with a 29% lower risk.

Among individual cancers, those of the digestive tract (39% heightened risk), genitalia (three-fold greater risk), and lymph system (doubling in risk) were associated with the greatest risks.

Among the category of gut diseases, those of the liver (12-fold heightened risk) and disorders of the gallbladder, biliary tract, and

pancreas (14-fold heightened risk) were associated with the greatest risks.

Men with idiopathic gynecomastia weren't generally at greater risk of an early death than men in the reference group, except for a cause-specific two-fold heightened risk of death from liver disease.

This is an observational study, and as such, can't establish causal factors, and the researchers acknowledge that they weren't able to account for potentially influential factors, such as obesity, exposure to endocrine-disrupting chemicals, and steroid use.

By way of an explanation for their findings, the researchers suggest that gynecomastia is strongly intertwined with later health risks, and quite possibly, the drugs used to treat them.

They conclude, "Males diagnosed with gynecomastia are at a 37% higher risk of death, observed mainly in males with a known pre-existing gynecomastia risk factor and not in males with idiopathic gynecomastia. These results should therefore prompt thorough clinical examination to identify the underlying risk factors."

More information: Is male gynaecomastia associated with an increased risk of death? A nationwide register-based cohort study, *BMJ Open* (2024). DOI: 10.1136/bmjopen-2023-076608

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