Babies' DNA lingers in mom after birth, may offer health boost

In pregnancy, women are shape-shifters, their bellies waxing like the moon. After delivery, they hold another kind of magic: microchimerism, a condition in which women harbor cells that originated in their children even decades after birth.

The name, born from Greek myth, refers to the chimera, a fire-breathing lioness with the head of a goat rising up from her body and the tail of a serpent. In ancient mythology, the chimera was an omen of storms and natural disasters. Just what microchimerism foretells still isn't clear, but a recent <u>study</u> in the *International Journal of Epidemiology* suggests that these cells may substantially improve the health of the women who house them.

In research published earlier this year, epidemiologists analyzed the data from a previous longitudinal study of 272 elderly Danish women. Out of that group, 70 percent had Y sex chromosomes in their blood, a sign of the presence of male cells.

Although cardiovascular disease was slightly elevated among women with male microchimerism, their overall mortality rate was a whopping 60 percent lower, primarily because of a lower incidence of cancer. Eight-five percent of these women made it to age 80, compared to 67 percent of women without the presence of these cells.

Scientists don't know for certain what biological mechanisms cause these findings, but past research suggests microchimerism may boost <u>immune surveillance</u>—that is, the body's ability to recognize and destroy pathogens and cells that might become cancerous—and also play a role in the repair of damaged tissue, helping form <u>new blood vessels</u> to <u>heal wounds</u>. Microchimerism is also associated with a lower risk of Alzheimer's disease and breast cancer.

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