

THE RISK OF INFERTILITY AFTER SURGERY FOR BENIGN OVARIAN CYSTS

K. M. Turdimuratova

Tashkent Medical Academy

Background: There is a growing body of evidence that ovarian cystectomy may negatively impact ovarian reserve. However, it is unclear whether ovarian cyst surgery puts women at risk of future infertility. This study investigates whether surgery for benign ovarian cysts is associated with long-term infertility risk. Benign ovarian cysts occur in *6.6% of women. “Ovarian cyst” encompasses many subtypes of benign cysts, some of which require surgical excision. The mainstay for treatment in reproductive-age women is ovarian-sparing surgery, usually by ovarian cystectomy with removal of the cyst from the surrounding ovarian cortex while preserving as much healthy ovarian tissue as possible. Ovarian cystectomy may have a detrimental effect on ovarian reserve (the quantity of oocytes remaining in the ovaries). Serum anti-Müllerian hormone (AMH) and ultrasonographic antral follicle count (AFC) are markers used to estimate the primordial follicle pool. Ovarian cystectomy may affect ovarian reserve by unintentional removal of some healthy ovarian cortex.

Methods: Women aged 22–45 years (n = 20) were invited to participate in an interview about their reproductive histories, including whether they ever had infertility or ovarian cyst surgery. Each woman reporting cyst surgery was randomly matched to a comparison woman, who was assigned an artificial surgery age equal to that of her match. Adjusted Cox models were fit to examine time to infertility after surgery for each match. A subset of women was invited to participate in a clinic visit to assess markers of ovarian reserve (anti-Müllerian hormone [AMH], antral follicle count).

Participants were invited to participate in a computer-assisted telephone interview to ascertain information regarding demographics; reproductive history including infertility; medical history (including chronic conditions [e.g., hypertension, thyroid disorders]); surgical history including prior ovarian cyst surgery; menstrual history; desire for future children; and lifestyle factors.

Results: Approximately 6.1% of women reported cyst surgery. Infertility after surgery was more common for women reporting cyst surgery than those without surgery after adjusting for age, race, body mass index, cancer history, parity before assigned surgery age, history of infertility before surgery age, and endometriosis. The estimated geometric mean AMH levels of those who reported a history of ovarian cyst surgery were 1.08 times those of women who reported no history of surgery.

Conclusions: Those with a history of ovarian cyst surgery were more likely to report having a history of infertility compared with age-matched women who reported no history of cyst surgery. It is possible that both ovarian surgery to remove cysts and the conditions that lead women to develop cysts requiring surgery may affect subsequent successful conception. Our study was population based and may reflect a more general impact of ovarian cyst surgery on subsequent fertility. It is possible that both ovarian surgery to remove cysts and the conditions that lead women to develop cysts requiring surgery may affect subsequent successful conception.

References:

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