To salping -ectomy or -ostomy: that is the question

Since the 1884 introduction of salpingectomy as a treatment option for ectopic pregnancies, the mortality rate associated with ectopic pregnancies declined from 72% – 90% to 0.14% in 1990 (1). Sixty-nine years after the first salpingectomy, the first salpingostomy was performed in 1953 (1).

A salpingostomy entails an incision into a fallopian tube over the site of ectopic pregnancy and removal of the ectopic pregnancy to spare and retain patency of the fallopian tube for future fertility (2). In contrast, a salpingectomy performed to treat an ectopic pregnancy involves the removal of the tube—usually with the ectopic pregnancy in situ. In both treatment strategies, ideally, an examination of the contralateral adnexum should occur (2).

Per Donnez et al. (3), the choice of surgical technique in the management of a tubal ectopic pregnancy should be determined based on several considerations, including the condition of the tube (whether ruptured or unruptured), the location and size of the ectopic pregnancy, accessibility, and the risk of complications like bleeding. Other considerations should include the patient's personal wishes, intraoperative findings (whether the tube is salvageable), desire for future fertility, and postoperative patient-specific considerations (including compliance and ability to follow up given risks of persistent ectopic pregnancy) (2). Because part of the tube remains in situ after a salpingostomy, the risk for persistent ectopic pregnancy exists and can range from 5% to 29% (2). Because of these risks, post salpingostomy recommendations for routine surveillance of human chorionic gonadotropin levels or methotrexate administration have been made (2).

Approximately 90% of all ectopic pregnancies occur in the fallopian tube, and about 80% of tubal ectopic pregnancies occur in the ampullary segment of the fallopian tube (2). Given concerns that ectopic pregnancies implanting in the isthmic portion of the tube could result in trophoblastic infiltration of the wall and hemorrhage, a partial or complete salpingectomy is recommended for the management of the isthmic ectopic pregnancies (2). A salpingostomy can be considered if the ectopic pregnancy occurs in the ampullary segment of the fallopian tube (2).

Risk factors for tubal damage that elevate risks for an ectopic pregnancy can include prior ectopic pregnancy, endometriosis, history of infertility, history of previous ovarian or tubal surgery, known hydrosalpinx, or identification of contralateral tubal pathology (2).

Whether salpingostomy may improve fertility outcomes over salpingectomy remains unclear according to most studies, and the prognosis may vary according to the presence of risk factors for tubal disease. In fact, in a systematic review of surgical treatments for ectopic pregnancy by Ozcan et al. (2), among a cohort of women with risk factors, the risk of a subsequent recurrent ectopic pregnancy in patients treated with a salpingectomy (over a salpingostomy) was higher. Furthermore, women undergoing a salpingectomy had a much lower odds ratio for a subsequent intrauterine pregnancy (0.3; 95% confidence interval, 0.17–0.54) than women treated with salpingostomy. Given these unfavorable fertility outcomes after salpingectomy, that systematic review concluded that strong consideration for a salpingostomy in the treatment of an ectopic pregnancy should be given if future fertility is desired.

However, between 2006 and 2015, among the patients treated surgically for ectopic pregnancy in the United States, the percentage receiving salpingostomy decreased from 13% to 6% (2). Ozcan et al. (2) partly attribute the contemporary decrease in salpingostomies to a lack of surgical training in this technique.

Ozcan et al. (2) make the charge that salpingostomies may be significantly underused in women with risk factors for tubal disease in the United States. In this issue of F&S Reports, Huttler et al. (4) present their findings from a retrospective cohort study of the American College of Surgeons National Surgical Quality Improvement Program from 2010 to 2019 on the treatment of tubal ectopic pregnancy, with a special focus on outcomes by ethnicity and surgical approach to tubal ectopic pregnancy. Overall, they found that despite the increasing use of minimally invasive surgery over time, the odds of undergoing laparoscopic surgery for an ectopic pregnancy were lower in Black and Hispanic patients than in White patients. Black patients were also less likely to undergo a salpingostomy than their White counterparts.(4)

Prior studies have shown that minority women are at increased risk for ectopic pregnancies (5). There are many theories as to why this may be. In their discussion, Hsu et al. (5) conjecture that without reliable insurance coverage, at-risk minority women may have delays in seeking out health care, which may contribute to more advanced disease at the time of diagnosis of an ectopic pregnancy. They also posit that the greater incidence of salpingectomy among racial minorities may be due to the preponderance of gonorrhea and chlamydia infections, citing that Black women are fourteen times more likely to have had a history of gonorrhea than their White counterparts, likely leading to a more severe underlying tubal pathology (5).

The reasons underlying these disparities are complex. Further study is needed to understand better the underlying etiology of these differences. Given the treatment of ectopic pregnancies can impact the future reproductive potential of many women, a study of these factors is important, and kudos to the investigators of this paper (5) for continuing this conversation.

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