

A reconsideration of salpingectomy for hydrosalpinx before in vitro fertilization: why bother?



Why a Fertile Battle over the necessity of salpingectomy or tubal interruption prior to in vitro fertilization (IVF) in women with hydrosalpinges? Considered. Discussed. Settled. When initially suggested as a topic for this feature, the much anticipated onrush of enthusiastic huzzahs was disarmingly absent. Never mind the too-numerous-to-count quotes many of us frequently invoke which caution us to be thoughtful about our embrace of the accepted dogma—perhaps dating back to the first century A.D. when the Roman naturalist Pliny the Elder exhorted, “In these matters the only certainty is that nothing is certain.” We come to this Fertile Battle with a clear understanding that the presence of hydrosalpinges is associated with diminished pregnancy rates in women undergoing IVF. I would expect that even Pliny would concur with this observation. The question being posed in this debate is not whether hydrosalpinges reduce success rates in women undergoing IVF, but rather to what extent should we be counseling our patients that surgical extirpation prior to IVF is clearly the present standard of care, and to consider otherwise would be clinically dubious?

The question of how best to improve the fertility of women with hydrosalpinges dramatically evolved through the 1980s and 1990s. Time and again analyses of surgical correction of hydrosalpinges showed subsequent live birth rates of 15% to 20% (1), not too much different from IVF success rates at the time. The discussion of risk and morbidity from surgery as opposed to IVF was relevant then as it is today, though similarly difficult to quantify except to the individual contemplating either. As IVF success rates continued to improve, the potential deleterious impact of hydrosalpinges on success rates became more apparent. Many important studies suggested that overall success rates were optimized not by surgical neosalpingostomy but by salpingectomy followed by IVF (2). Despite this emerging standard, or perhaps because of it, clinicians frequently found themselves conflicted in the case of women who were poor surgical candidates, could not afford surgery, or had another compelling reason not to act on this new paradigm. Different approaches to this dilemma were taken by clinicians, but we can all agree that many of these women went on to IVF without tubal interruption, and many babies were born as a result. While these cycles might have been more successful had salpingectomy been performed, it is safe to say that our “standard” has only applied to those who could tolerate or afford the morbidity or expense of surgery, and many families are the better off for it.

A number of studies have suggested alternative, non-surgical approaches to mitigating the adverse effect of hydrosalpinges on IVF outcome. These have described the use of prolonged antibiotics, ultrasound-directed aspiration, and hysteroscopic proximal tubal occlusion, among others. All

of these studies were underpowered (and likely underfunded) to provide a clear understanding of the utility of the proposed approach. Indeed, one could also speculate that the authors were not always asking the ideal question which is probably not, “Is this technique as good as salpingectomy?” but rather, “How close are results to those seen in women who have a salpingectomy?”

So, where does this leave us as we contemplate the ideal treatment of women with hydrosalpinges today? How has the specialty evolved in the 20 years since salpingectomy or tubal interruption became “standard” for women contemplating IVF? There are several major factors to be considered in answering this question. First is the question of diagnosis. In the 1980s and 1990s the diagnosis of hydrosalpinx was typically made (or at least suspected) based on a hysterosalpingogram (HSG), and confirmed or refuted by a laparoscopy. In short, clinicians had a high degree of confidence in the accuracy of the diagnosis. As time has gone by the diagnosis is being made almost exclusively by imaging and not by direct visualization via laparoscopy. Furthermore, many clinicians have chosen to eschew HSG in favor of an office-based sonohysterogram (SIS). The sensitivity and positive predictive value of SIS, or even HSG for that matter, is not established. We do have data to suggest that ultrasound will detect only 34% of hydrosalpinges later diagnosed by HSG (3), and that those with ultrasound-detectable hydrosalpinges may be at greatest risk for poor outcomes (4). While we may be missing the diagnosis in some cases, we might be making it incorrectly in others based on an overenthusiastic or simply incorrect impression of the images acquired. We would be wise to characterize the accuracy of our present diagnostic approaches, and further, attempt to determine whether all hydrosalpinges have an equally important effect on outcomes.

The second major factor to be considered is the impact of the tremendous progress that has been made in our IVF labs over the past 20 years. Recall that studies showing the significant benefit of salpingectomy were performed when cleavage stage embryos were being transferred, and success rates of IVF were 25% to 30% per cycle (5). We can only speculate as to whether the progress in IVF by itself has reduced the negative impact of hydrosalpinges. Consider that if we rejected the value of embryo biopsy of blastocysts today based on the outcomes of cleavage stage embryo biopsy in the past, our specialty would look far different than it does now.

Finally, I think we could do better at viewing this clinical decision through the eyes of our patients who bring many different challenges to the discussion. We should acknowledge that in some if not most cases a lower success rate for an affordable procedure is preferable to a higher success rate for one that is unattainable or unsafe. We all want the best for our patients, but we should also consider that most of us are willing to offer IVF to older women using their own oocytes and whose prognosis is far worse than that of a 25 year old woman with bilateral hydrosalpinges who cannot undergo salpingectomy for whatever reason. Should we be so directive to this younger patient? Is it not timely to consider a well-designed and appropriately-powered study

of promising non-surgical approaches as compared to the standard approach of Y2K?

The goal of our Fertile Battle feature is generally to have our two friendly adversaries throw intellectual spears at each other in pressing their approach to compelling clinical problems. Perhaps this Fertile Battle is somewhat different in that we have chosen to reconsider a widely accepted clinical paradigm, but perhaps one that merits a reevaluation after being dormant for a generation of clinicians. We are indebted to Dr. Bradley Hurst for being willing to question this paradigm, and Drs. Bradley Van Voorhis and Rachel Mejia for their willingness to support salpingectomy as the standard approach. It takes courage to question the status quo just as it does to support it, and we thank our authors for doing both.

William D. Schlaff, M.D.

Department of Obstetrics and Gynecology, Sidney Kimmel Medical College, Thomas Jefferson University, Philadelphia, Pennsylvania

<https://doi.org/10.1016/j.fertnstert.2019.02.014>

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