

Milestones

The Birth of Tubal Sterilization

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Avoiding pregnancy is an important aspect of a woman's reproductive career. Tubal sterilization is by far the most popular means of fertility control across the world. Fertility control and the physicians make strange bedfellows. Insuring against conception, though simple in thought, proved to be practically difficult even in the beginning of the 20th century. How do you hold a moonbeam in your hand? "It has always seemed to me that one of the opprobria of medicine is.... to advise the patient not to become pregnant again, and at the same time be morally certain that within a few months she will return in the same condition¹." This lament voiced by J W Williams in 1921 has become a thing of the past thanks to the pioneering work of surgeons such as Max Madlener and Ralph Pomeroy. Sterilization by division of the fallopian tubes is the simplest, most effective and safest approach with the least disturbance of other functions. It was first recommended by Blundell in the early nineteenth century. It is doubtful that it was actually carried out before Lungren performed it in 1880 at the time of a caesarean section on a patient with a contracted pelvis. A rash of techniques broke out in the next few decades; but each operation was marred by a disturbing proportion of failures, resulting from the remarkable regenerative capacity of the endosalpinx².

One of the earliest, effective and safe techniques for tubal sterilization was devised by Max Madlener in 1910. (Figure 1) Max Madlener was known primarily as a general surgeon rather than a gynecologist. It is not surprising that most of his other contributions relate to the treatment of goiter, subtotal gastrectomies for stomach ulcers and intestinal resection for large bowel carcinomas. In his paper on tubal sterilization, he reported on 89 patients; 34 by laparotomy and 55 by

anterior colpotomy. Three of the patients died but none of the survivors had conceived again³. The technique was remarkable for its simplicity. The principles were described lucidly in the paper. "The operator grasps the tube in the mid-portion, where it is most mobile and elevates it to angulate at approximately 90°. A crushing clamp is then applied so as to encounter the tube obliquely along with a small portion of the mesosalpinx. The jaws of the crushing clamp are closed tight so that the tissue is surely crushed paper thin. The crushing clamp is then removed and a thin thread ligature is placed in the groove. Small hematomas may occasionally occur at the end of the groove, but these are of no importance." (Figure 2)

In contrast to Madlener's satisfactory experience with his procedure, others reported a considerable number of failures. This was traceable to the very complication that Madlener had warned against, the formation of a tuboperitoneal fistula due to tears in the tubal serosa. The technique was gradually supplanted, especially in the United States, by a more certain method devised by



Figure 1. Max Madlener

Madlener, Über sterilisierende Operationen an den Tuben. 383

Die Klemme muß beim Anlegen und Quetschen ruhig gehalten werden, damit der Eileiter nicht gezerrt und abgerissen wird, was ich einmal erlebte. Die Verwendung des Enterotriptors machte weder bei abdominalem, noch bei vaginalem Vorgehen Schwierigkeiten. Allerdings war bei allen unseren vaginalen Operationen die Zugänglichkeit wegen des Prolapses eine gute, und ich nehme an, daß die Anlegung des etwas plumpen Quetschinstruments bei straffen Weichteilen und verkürzten Ligamenten nicht immer möglich ist. In solchen Fällen wäre der abdominale Weg vorzuziehen.



Figure 2. Madlener's technique

Ralph Pomeroy. He was born in New York City in 1867 and served as a consulting obstetrician and later president of the Kings County Hospital, Brooklyn. (Figure 3) Ralph Pomeroy is also known for his technique for rotating the head from a posterior position by manipulating the anterior shoulder. Tubal sterilization remains by far his biggest contribution. Surprisingly, he never presented the technique in public during his lifetime. The operation was described by his associates, Bishop and Nelms at a meeting of the New York State Medical Society in 1929⁴. They reported a hundred consecutive cases with no known failures. They propounded the technique on the surgical principles of simplicity, safety and security. "It is nothing more or less than that a loop in the loose, middle portion of the tube is ligated with absorbable suture material and resected. Our practice has been to use a double strand of No. 1 chromic catgut. No absorption occurs until there is no fear of bleeding and when it does, the two cut ends are drawn apart. Herein lies the secret of the process. Nature throws over a barrier of new peritoneum and the separation becomes permanent. We certainly do not crush the tube which may open a way for fistula formation." (Figure 4)

Tubal sterilization itself has become much more sophisticated with the advent of the laparoscopic route and various devices such as bands and clips. Pomeroy's technique itself has been modified many times over by generations of surgeons who followed. The principles, however, remain constant and have stood the test of time.

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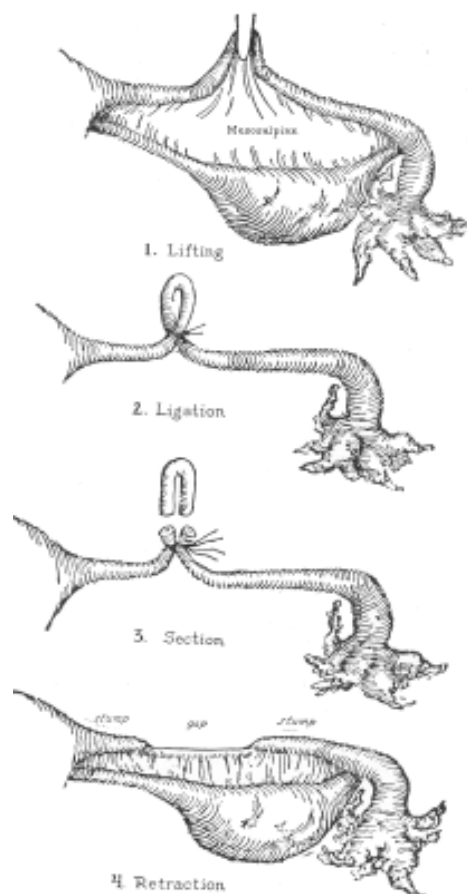


Figure 3. Pomeroy's technique

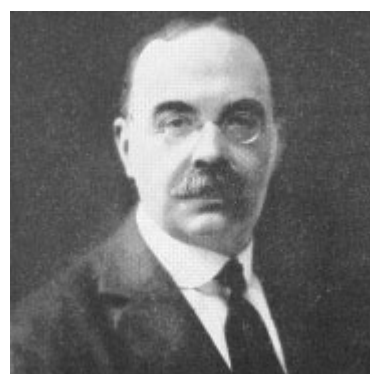


Figure 4. Ralph Pomeroy

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