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Development of a new tubal recanalization method using the combination of hysteroscope and laparoscope in the treatment of obstructed fallopian tubes



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Objective

Reconstructive catheterization for tubal obstruction has been performed for a long time. Some papers have reported its usefulness for natural conception.¹ However, the fact that a visual confirmation that the catheter has been properly inserted in the fallopian tube is not so easy and the existence of peritubal adhesions make it ineffectual clinically are the weak points of this method. In order to overcome these problems we developed a new strategy to conduct reconstructive surgery of the tubes using a combination of hysteroscope and laparoscope.² The advantages of the new method are that it makes it possible ① to visually confirm the opened orifice of the fallopian tube under hysteroscopy ② to visualize the running of the tip of catheter and confirm the recanalization of the obstructed tube with the passage of dye under laparoscopy and ③ to ablate any peritubal adhesion laparoscopically. It can be smoothly inserted and withdrawn through the blocked areas repeatedly and can be handled strongly without any problems.

Materials and methods

The equipment used was a laparoscope (ENDO EYE LAPAROTHORACO VIDEO SCOPE, Olympus Medical Systems Corporation, WA50042A ϕ 10.2 mm), a hysteroscope (VIDEO HYSTERO SCOPE,

Pentax Medical Corporation, EHY-110s ϕ 3.8 mm) and a Asahi Intecc catheter (ASAHI Veloute Micro catheter, Asahi Intecc J-sales, VEL105-16S ϕ 0.58 mm with BEGIN Micro Guide Wire, Asahi Intecc J-sales, BGN135-14, ϕ 0.31 mm). 54 Childless couples with unilateral or bilateral fallopian tubal obstructions without other infertility factors were selected from January 2012 to December 2013. The catheter was inserted into the opening of fallopian tube and moved it forward slowly under laparoscopic observation. When the tip of catheter hit the wall of the fallopian tube, especially at the bend, it became almost impossible to move forward any further so it was useful to hold the adjacent fallopian tube with forceps and stretch it to make the bend straight for further progression. When this catheter hits the tubal wall and cannot advance any further, we change it to a different catheter (Radifocus[®] Guidewire GT, TERUMO Corporation, RF-GS35153 ϕ 0.89 mm) which has a handler and a thicker tube tip. We advance about one cm forward then change again to the Asahi Intecc tube. After preparation with the Terumo tube, the insertion of the Asahi Intecc tube becomes much easier and reaches the end of fallopian tube about 100% of the times.

Results

From Jan. 2012 to Dec. 2013, 29 cases of both fallopian tubes blockage and 20 cases of obstruction in one of the tubes, making a total of 49 cases, were treated using this method. Four weeks after treatment a fallopian tubes and HSG (hysterosalpingography) was conducted after four times of additional hydrotubations. The recanalization of the fallopian tubes was confirmed in 21 out of 29 cases of bilateral tubal blockage, and in 17 of 20 cases of a single tubal blockage. Up to this date pregnancy rates and miscarriage rates obtained were 34.2% (13/38), 15.4% (2/13) and 5 healthy babies have been born, remaining 6 cases are ongoing. We will later report if natural pregnancies are achieved.

Conclusions

This method is useful as a treatment for fallopian tubes obstruction and opens the possibility of achieving a natural

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pregnancy in cases of blockage of both fallopian tubes that until now only have had ART as a treatment method.

Appendix A. Supplementary data

Supplementary data related to this article can be found at <http://dx.doi.org/10.1016/j.gmit.2016.10.004>.

References

1. Sueoka K, Asada H, Tsuchiya S, et al. Falloposcopic tuboplasty for bilateral tubal occlusion. A novel infertility treatment as an alternative for in-vitro fertilization? *Hum Reprod.* 1998;13:71–74.
2. Tanaka A, Tanaka I, Ikuma S, et al. Development of a NEW tubal recanalization method using an ultrasonic tomography in the treatment of obstructed fallopian tubes. *The Annual Meeting of ASRM 2012, October 23, San Diego, V-23.*