

Hysteroscopic cannulation for proximal tubal obstruction

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Summary: Hysteroscopic cannulation of the tubal ostia was attempted in 31 cases (58 tubes) of proximal tubal obstruction. At least one tube could be cannulated in 26 cases (83.9%). Both tubes were cannulated in 17 patients and one tube in 9 patients (74% of the tubes). Cannulation could not be done in 5 cases. Associated distal tubal disease was present in 3 cases. Oligospermia was present in 3 cases. In 8 cases there were other pathologies, (myoma, endometriosis, PCOD and intrauterine synechiae) which were also treated simultaneously. 9 patients conceived after hysteroscopic cannulation. Five of these patients had associated pathologies, 2 of them aborted. No ectopic pregnancies occurred. There was no complication in this series.

In conclusion hysteroscopic cannulation preferably under laparoscopic guidance is a procedure of choice for majority of proximal tubal obstructions.

Introduction

Fallopian tube disease is an important contributory factor in 30-40% couples with infertility (Speroff, 1989). Proximal tubal obstruction is etiologic in approximately 10-20% of these women (Sulak et al 1987). Proximal tubal obstruction may result from a variety of causes such as spasm, SIN, fibroids or endometriosis. Traditional treatment for proximal tubal obstruction is laparotomy with tubal implantation or anastomosis. But pathological studies of such resected tubal segments have shown no anatomic evidence of occlusion in 60% of cases (Sulak et al 1987). So laparotomy and tubal surgery appears an over treatment for most of these functional blocks. Many workers achieved tubal recanalisation by a less invasive technique of tubal catheterisation using guide wires under hysteroscopic, fluoroscopic and ultrasonographic control (Thurmond 1987, Novy et al 1988).

Tubal recanalisation by hysteroscopic control offers a number of advantages over other techniques. First is the guidance of tubal catheter into tubal ostia is simple because it is done under direct vision. Second, since it is done along with a laparoscopy the presence of distal tu-

bal disease can be diagnosed and treated simultaneously. So it offers a one step evaluation and treatment in infertile patient with proximal obstruction.

Materials and methods

We performed hysteroscopic cannulation for cornual block in 31 patients during a study period from Feb 1994 to Aug 1996. Cornual block was diagnosed by hysterosalpingography and confirmed by laparoscopic chromopertubation in 26 cases. In 8 cases only laparoscopy chromopertubation was done which showed cornual block. The patients belonged to an age group of 24-39 years. 25 cases were primary infertility and 13 cases were secondary infertility. Duration of infertility ranged from 1½ to 12 years. Bilateral tubal block was present in 27 cases. In 4 cases unilateral block was present, three cases had previous salpingectomy for ectopic pregnancy and one had hydrosalpinx on the opposite side.

The hysteroscopic cannulation was done under general anaesthesia with concurrent laparoscopy. In few cases when a laparoscopy was already done elsewhere, only hysteroscopy was done and patency was checked by

hysterosalpingography after cannulation. A Karl Storz operating hysteroscope was used for cannulation. The cervix was dilated to size 7 Hegar and 1.5% glycine or Ringer lactate was used as the distending medium. The distending medium was pressurised directly by a Blood pressure cuff. A 7F outflow catheter was then introduced through the operating channel and blood stained fluid tissue debris were sucked out to clearly visualise the ostia. A Terum guide wire (Radifocus guide wire, diameter 0.89 mm) was then introduced through the outflow catheter. The hysteroscope and outflow catheter are positioned in such a way that, if you push the guide wire it should enter the ostia. The assistant now tries to push the guide wire into the ostia, always keeping the outflow catheters almost in a straight line for easy sliding. In occasional difficult cases the out flow catheters together with the guide wire is pushed simultaneously. Usually a 2-3 cm length of guide wire is pushed inside the ostia to go beyond the possible site of obstruction. Once the cannulation is complete hysteroscope is removed and chromopertubation is done and spill of dye is checked through the laparoscope.

Results

Of the 31 patients with 58 tubes in whom hysteroscopic cannulation was attempted, successful cannulation could be done in at least one tube of 26 patients (83.9% of patients). Both tubes were cannulated in 17 patients and one tube in 9 patients (74% of the tubes) cannulation was not successful in 5 cases. In 3 cases the ostia could not be identified. In 2 cases the cavity and ostia were normal and cannulation was also done. But subsequent dye instillation or HSG did not show patency of the tube.

Associated distal tubal disease was present in 3 cases. Oligospermia was present in another 3 cases. In 8 cases there were other pathologies (myoma - 2, Endometriosis - 3, PCOD-2, intrauterine synechiae-1) which were also treated simultaneously. There were no complications in this series.

9 patients became pregnant (29%) after hysteroscopic cannulation. 2 of the patients had simultaneous myomec-tomy. Two patients had endometriosis, one was mild and other was severe. One patient had tuboovarian adhe-sions. 2 of the patients who conceived had early preg-nancy abortion. None of the patients had an ectopic preg-nancy.

Discussion

Our results suggest that hysteroscopic cannulation is a simple and effective method to treat proximal tubal ob-struction. Cannulation was successful in the 31 patients attempted (83.9%) But we failed in cases where there is definite organic pathology and ostia could not be identi-fied. In the initial series we performed the cannulation with Jansen Anderson catheter (Cooks) which is very costly and cannot be reused because its tip get damaged after single use. We then switched over to the Terumoguide which is strong enough as well as avoids perforation of the interstitial portion of the uterus. We used the usual hysteroscopic outflow catheter as a guide to pass the catheter instead of the costly catheter sys-tems available commercially. Although it is a disposable one it can be resterilised by soaking in Cidex solution. So hysteroscopic cannulation can be attempted in any oper-ating theatre with an operating hysteroscopic without exorbitant additional cost to the patient for the disposable catheter systems.

Intrauterine pregnancy rates with transcervical cannula-tion procedures for proximal tubal obstruction have been reported as 17-30% in various series (Issaacson et al 1992). In our series 9 patients conceived out of 31 proce-dures (29%).

Ectopic pregnancy rates after cannulation procedures have been reported to vary from 0%-27% (Herslag A 1990). Deaton et al (1990) reported 3 ectopics in 12 patients who had associated surgical correction of sig-nificant distal tubal disease. There were no ectopic in this series. This series had only 3 cases of distal tubal

disease and which were not severe and only one of these patients conceived which may explain the absence of ectopic pregnancy.

The simultaneous use of laparoscopy allowed us to treat other coexisting disease simultaneously. In our series 5 patients who became pregnant, had other coexisting disease.

Conclusion

Hysteroscopic tubal cannulation is a simple alternative to traditional laparotomy and microsurgical anastomosis or tubal implantation in more than 85% cases of proximal tubal obstruction. Hysteroscopic tubal cannulation has a number of advantages over other transcervical cannulation procedures. It is done under visual control and the technique is easy to learn. Hysteroscopic cannulation

under the laparoscopic guidance allows an opportunity to treat other coexisting condition.

References

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