Successful pregnancy following refusal of laparoscopy but acceptance of hydrotubation-only procedure for bilateral tubal blockade

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Abstract

Background: Hydrotubation is the trans-cervical flushing of fluid through the fallopian tubes, commonly used in combination with laparoscopy for diagnostic purposes to determine the tubal patency in infertility investigation. Hydrotubation-only procedure can be done in women that refuse diagnostic laparoscopy.

Case presentation: In this study, a case of 27-year-old nullipara was reported who presented to the Hospital with a history of inability to conceive. Investigations done prior to presentation to this facility included a hormonal profile which was indicative of hyperprolactinaemia. She also came in with a hysterosalpingogram which showed left cornual tubal blockage. The right tube was very poorly outlined and ended blindly with no peritoneal spill. The husband’s seminalysis was well within normal limits. She refused consent for laparoscopy but not hydrotubation. Following multiple hydrotubation, she had successful pregnancy and subsequently achieved a live birth.

Conclusion: We report a case of pregnancy resulting from multiple hydrotubations. Two radiologists and a gynaecologist separately had discussed with this medical professional couple the result of the hysterosalpingography that showed bilateral tubal occlusion and they opted for hydrotubation-only procedure with resultant live birth.

Introduction

Hydrotubation is the trans-cervical flushing of fluid through the Fallopian tubes, commonly used in combination with laparoscopy for diagnostic purposes to determine the tubal patency in infertility investigation. A number of studies show that lipiodol hysterosalpingography significantly improved spontaneous pregnancy rate over a period of time [1,2]. Two randomized studies comparing lipiodol and water soluble flushing did not show any significant differences [3,4]. The mechanism of action of lipiodol is not established, but amorphous fallopian tubal debris identifiable on histological microscopy [5] may be mechanically removed. Nugent et al have suggested some unrecognized causes for the infertility [6]. Tubal infertility constitutes about 30-35% of causes of female infertility [7] and hydrotubation has been variously studied preoperatively, intraoperatively and post operatively in order to optimize fertility in infertile women [7-9]. We report a case of pregnancy resulting from multiple hydrotubations. Two radiologists and a gynaecologist separately had discussed with this medical professional couple the result of the hysterosalpingography that showed bilateral tubal occlusion and they opted for hydrotubation only.

Case presentation

Mrs. O.J, a 27-year-old nulliparous, laboratory technologist woman with inability to achieve conception for two years of marriage.

She achieved menarche at 13 years. Her menstrual flow was normal in duration and flow, and was ovulatory as per the history. She had a single episode of itchy vaginal discharge and was treated for Candidiasis with Fluconazole. Her urinary and bowel habits were uneventful. She had a right breast lumpectomy which was benign. She had been on cycles of clomiphene citrate and bromocriptine though stopped at time of presentation. There was no heat or cold intolerance. She had no contraception and her braziers were never tight. There was suckling of both breasts. She had no allergies and was one of eight children, five females and three males.

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Her vital signs were within normal limits. There was no receding of...
the hair or visual field loss. She perceived odour normally. There was
galactorrhoea but no chest lesions were found. The abdomen revealed
no abnormality. She had normal female escutcheon. Apart from vague
suprapubic tenderness, the pelvic examination was very unremarkable.

Culture and semen analysis were ordered for the husband; and for
the wife, urine analysis, culture and sensitivity, and complete blood
count. These were essentially normal. Ultrasound showed uterine
dimensions of 6.85x4.61x3.19 cm. No fibroids were seen. A diagnosis of
tubal factor primary infertility was made.

She was counselled for laparoscopy and intra-operative
hydrotubation. For an undisclosed reason she refused any form of
open and minimal access surgery. The offer was discussed fully and
she maintained her decision. Being a laboratory technologist and the
husband a medical doctor, we gave in to their decision and embarked
only on hydrotubation.

During each cycle she was given clomiphene citrate 100 mg daily
for 5 days, from the 3rd day of her cycle. Hydrotubation under ketamine
general anaesthesia was scheduled on the 9-10th day of her cycle. She
was given some coital advice after each episode.

In the first hydrotubation done, there was much reflux of the
solution (normal saline, antibiotics and hyaluronic acid). In the two
follow up hydrotubations (done under ketamine hydrochloride) there
was less reflux and reduced resistance. She was not seen for the next
appointment but appeared after twelve weeks of missing her period.

Ultrasound showed a viable, fourteen week singleton pregnancy
with fundal placenta, normal liquor volume, active limbs and body
movements. Her antenatal period was uneventful. She had spontaneous
vaginal delivery of a female baby with APGAR score of 8 in the first
minute and 10 in 5 minutes. The baby weighed 3.26 kg.

Discussion

Up-to-date hydrotubation has been generally considered a
complimentary procedure to reproductive surgery. However, it has
been applied in combination with various treatments or singly in
the treatment of tubal infertility. In randomized studies [7,10,11],
hydrotubation significantly improved the pregnancy rate when applied
a day prior to intra-uterine insemination (the first option for patients
with unexplained infertility) as compared with no hydrotubation. Adeisyun et al. [12] also concluded in their study of 257 patients in a
low resource setting that therapeutic hydrotubation may be beneficial
especially in patients with incomplete tubal occlusion (bilateral fibromial
adhesions) and as part of treatment for unexplained infertility. Our
patient, after discussions with two radiologists, a gynaecologist and a
family physician, opted for therapeutic hydrotubation. An informed
consent was obtained hence, after the initial one; the subsequent
hydrotubations were done under transient anaesthesia.

Patient selection in the combined or therapeutic hydrotubation is of essence. Shi-en et al in a retrospective study introduced a new
classification system for pregnancy prognosis of tubal factor infertility
[13]. Based on the nature of adhesions, tubal patency, morphology
and fimbrialstructure the patients were classified as mild (0-7 points),
moderate (8-15 points) and severe (more than 16 points). This is
an area where laparoscopic salpingoplasty and hydrotubation; hysteroscopic-laparoscopic salpingoplasty and hydrotubation and
laparoscopic hydrotubation were used to improve the tubal infertility
score. In a low resource setting where facility or technology is lacking,
use of hysterosalpingography and therapeutic hydrotubation may
suffice to improve the fertility score as in our patient.

Hydrotubation is not without its complications if done blindly
with undue force. In a randomized study for hydrotubation versus
no hydrotubation before intrauterine insemination in unexplained
infertility [14], there was no significant difference in the ongoing
pregnancy rate between the hydrotubation and no hydrotubation
groups. The procedure for hydrotubation was easy, safe with minimal
discomfort in a minority of patients. In the three surgical approaches:
laparoscopic salpingoplasty and hydrotubation; hysteroscopic-
laparoscopic salpingoplasty and hydrotubation; and laparoscopic
hydrotubation) tubal factor infertility scores were decreased to a similar
extent [15,16]. Based on the relationships between the preoperative
tubal factor infertility scores and prognosis, post-operative pregnancy
outcomes in mild tubal factor infertility patients were higher than
those of moderate and severe tubal factor patients [13]. Discrepancies
between scores and prognosis could be due to differences in surgeons’
skills including hydrotubation skills. Our patient was morbidly fearful
of any discomfort hence the transient anaesthesia. A randomized study
with selected similar patients is on-going.

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