

LAPAROSCOPIC EVALUATION OF THE ETIOPATHOLOGY OF INFERTILITY

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SUMMARY

Laparoscopy often brings to light hitherto unexpected pathology. Often early and subtle causes of infertility thus revealed and treated lead to rewarding results. In an 8 year period of January 1981 to December 1988, 768 cases of infertility were investigated. Of these 436 (56.7%) were of primary infertility and 332 (43.3%) were of secondary infertility.

In 441 (58%) women, a fault in the female partner could be detected. Of these 410 patients underwent laparoscopy.

In 114 patients, all factors appeared normal, these were labelled as cases of unexplained infertility.

In 20% of cases, a uterine factor was implicated, these included absence or hypoplasia, mullerian anomaly, fibroid, or fixed retroversion.

In 42.93% a tubal factor was implicated, these included blocked tubes, tubo-ovarian masses or chocolate cysts.

In 14 cases peritoneal adhesions genital Koch's disease was suspected.

In 41 cases, pelvic endometriosis was suspected.

Thus it is established beyond doubt that laparoscopy has an important role to play in evaluating infertility.

Introduction

Laparoscopy is an invaluable tool in the evaluation of chronic pelvic pain, and obscure adnexal masses but it finds a special place in the total evaluation of infertile women as it often reveals subtle

lesions which could not have been established by hitherto established investigational procedures.

Material and Method

Over an 8 year period - January 1981 to December, 1988, 768 cases of infertility were evaluated in a private clinic. Of these,

436 patients were cases of primary infertility (56.7%) and 332 (43.3%) of secondary infertility.

In 213 couples (28%), the infertility was attributable to male factor and in 441 (58%), to female factor. In 76 couples, the faults were seen in both the partners.

In 114 patients, all factors appeared to be normal and they were labelled as cases of unexplained infertility.

Of the 441 couples, where the female partner was implicated, 410 underwent laparoscopy and the details of their laparoscopic evaluation forms the basis of the present study.

Observations and Results

Every patient included in the present study underwent a diagnostic laparoscopy under general anaesthesia. Air was used for producing the pneumoperitoneum. Methylene blue was employed for chromopertubation and a second puncture manipulation used for manipulating and inspecting the internal genital organs.

Detailed analysis revealed the following broad groups of causes contributing to infertility —

TABLE - I
CAUSES OF INFERTILITY AT
LAPAROSCOPY

| Sl. | Causes | No. of cases | Percentage |
|-----|-------------------|--------------|------------|
| 1. | Uterine factor | 82 | 20.00% |
| 2. | Tubal factor | 176 | 42.93% |
| 3. | Ovarian factor | 40 | 9.76% |
| 4. | Peritoneal factor | 45 | 10.96% |
| 5. | Unexplained | 114 | 27.80% |

In many cases, there were more than one factors involved.

Uterine Factor : A detailed account of this cause is listed below.

TABLE - II
UTERINE FACTOR IN THE
AETIOPATHOLOGY OF INFERTILITY

| | |
|-----------------------------------|----|
| Absent uterus | 2 |
| Hypoplastic uterus | 8 |
| Mullerian anomalies | 9 |
| Fixed retroversion | 43 |
| Bulky uterus with/without fibroid | 43 |
| Total cases | 82 |

Tubal Factor : Details of involvement of tubal causes is shown below.

TABLE - III
TUBAL FACTOR - TOTAL FACTORS
ENCOUNTERED AS CAUSES OF
INFERTILITY

| | |
|-------------------------|-----|
| Peritoneal adhesions | 84 |
| Bilat. tubal block | 52 |
| Unilat. tubal block (R) | 36 |
| (L) | 16 |
| Tubo-ovarian masses | 26 |
| Total cases | 176 |

Pelvic adhesions were seen in 54 cases. Tubal block was seen in 52, i.e. 29.55% of cases on both sides, however unilateral block was seen in another 52 cases of which the block was more common on the right side than on the left side. Adnexal masses were seen in 26 cases i.e. 14.77% of cases.

Ovarian Factor

In 40 women, ovarian lesions were suspected. Chocolate cyst were present in 22 cases. Bilateral polycystic ovarian disease was present in 16 cases and in 2 cases thin streak like ovaries were observed. Details are shown in Table IV.

TOTAL - IV
OVARIAN FACTORS ENCOUNTERED AS
CAUSES OF INFERTILITY

| | No. of cases |
|----------------|--------------|
| Chocolate cyst | 22 |
| Bilateral PCOD | 16 |
| Streak ovaries | 2 |
| Total cases | 40 |

TABLE - V
INCIDENCE OF UNEXPLAINED
INFERTILITY

| Author | Year | Percent |
|-----------------------|------|---------|
| 1. Case and Zuspan | 1969 | 10 |
| 2. Sher & Catz | 1976 | 10 |
| 3. Raymont et al | 1969 | 12.5 |
| 4. Jones and Paurmant | 1981 | 16.2 |
| 5. Dor et al | 1977 | 17.6 |
| 6. Bhatt et al | 1985 | 17.2 |
| 7. Present Series | 1989 | 14.6 |

Peritoneal Factor

In 14 cases, flimsy violin string adhesions or surface tubercles or a blue flush of the uterus with intravasation of the dye led to the suspicion of pelvic tuberculosis. In 41 cases, endometriosis ranging from powder burn marks to chocolate cysts was observed.

Unexplained Infertility

In 114 women, whose husbands had a normal semen count, a thorough laparoscopic evaluation failed to reveal any cause. These women were labelled as cases of unexplained infertility and accounted for

14.6% of the total women seen in the infertility clinic and 27.8% of women undergoing laparoscopic evaluation.

Comparison with other workers

Table V gives a comparative survey of the incidence of unexplained infertility as reviewed by other authors.

Conclusion

In conclusion, laparoscopy helps to reveal many fine etiological factors contributing to infertility, it contributes in confirming suspicious diagnostic conditions and lastly it often brings to light multiple factors acting in consonance and leading to infertility. The work-up of every infertile female must involve a laparoscopic evaluation after meticulously excluding the male factor in infertility.

References

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