

## original article

**Incidence of Endometriosis in women undergoing laparoscopy for evaluation of infertility. A hospital based study from a developing world country.**

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**Abstract:**

One of the major contributing factors for infertility in females is the presence of endometriosis. The exact prevalence in females is difficult to determine in reproductive age population. However if detected and managed in time, the condition is reversible with chances of pregnancy increasing exponentially.

**Material and Methods:-** The study was conducted from August 2013 to June 2015. This study was conducted in 219 patients who were undergoing diagnostic workup for infertility.

**Results:-** The age of the patients ranged from 19 to 41 years (27.68±3.72). Primary infertility was the presenting complaint. On radiological examination 31 patients were detected to have an ovarian cyst/endometrioma. On diagnostic laparoscopy 47 patients (21.45%) were detected to have endometriosis. Majority of the patients (41.9%) had stage I disease.

**Conclusion:-** It was concluded that endometriosis is not an uncommon disease in women with infertility in developing world countries. Laparoscopy is a useful tool for diagnosis, staging and management of patient with endometriosis.

**Introduction**

Infertility is a major health issue in females of reproductive age group in developing world countries. One of the major contributing factors for infertility in females is the presence of endometriosis. Endometriosis is a disease having a diverse range of presentation that includes pelvic pain<sup>1,2</sup>, dysmenorrhoea, dyspareunia or subfertility and infertility. The exact prevalence of endometriosis in infertile females is difficult to determine but has been variously quoted between 20 to 50%<sup>3</sup>.

Endometriosis also adds a huge economic burden as it is diagnosed by a surgical procedure and with complications like infertility, the management requires substantial costs<sup>4</sup>. Several mechanisms like distorted pelvic anatomy, prevention of normal cumulus-fimbria interaction, altered humoral and cell mediated immunity, endocrine and ovulatory abnormalities have been linked between presence of endometriosis and infertility.

With the introduction of laparoscopy endometriosis is being diagnosed earlier and the long term complications can be minimised to a large extent. Laparoscopy has the added therapeutic advantage that the disease can be surgically treated at the outset only.

We conducted a case study in patients who were undergoing evaluation for infertility to assess the incidence of endometriosis at the time of laparoscopic examination in a developing world country.

**Material And Methods**

This prospective case series was conducted in the department of obstetrics and gynaecology, S.K.I.M.S Medical College, Bemina. The ethical committee approved the study protocol and a written informed consent was obtained from the patients in the language they understood.

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Laparoscopy, endometriosis,  
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The patients with primary or secondary infertility in the reproductive age group having normal ovulatory cycles and normospermic partners formed the basis of this study. Patients with history of genital tuberculosis, or documented endometriosis or accidentally diagnosed pregnancy were excluded from the study. After routine workup including history, examination, laboratory and radiological investigations the patients were subjected to a laparoscopic evaluation under general anaesthesia. After a detailed examination of the pelvic cavity with special emphasis on noting the stigmata of endometriosis and staging as per the American fertility society scoring system, the patients were subjected to tubal patency tests.

### Results

This study was conducted from August 2013 to June 2015 in 219 patients who were undergoing diagnostic workup for infertility. The age of the patients ranged from 19 to 41 years ( $27.68 \pm 3.72$ ). Majority of the patients ( $n=151$ , 69.1%) were in the age group 21 to 30 years.

Primary infertility was the presenting complaint in 182 patients (83%) while as the rest had secondary infertility. Other associated complaints like pelvic pain in 15 patients, dysmenorrhea (12 patients), dyspareunia (4 patients), menorrhagia/oligomenorrhoea (6 patients) were also present. On local examination uterine mobility was restricted in 13 patients (5.9%). On radiological examination 31 patients (14.1%) were detected to have an ovarian cyst/endometrioma.

On diagnostic laparoscopy 47 patients (21.45%) were detected to have endometriosis. Majority of the patients  $n=20$  (41.9%) had stage I disease. Ovaries were the most frequently involved site  $n=24$  (51.6%). Tubal chromointubation was positive in 160 patients (73.06%) and negative in 59 patients.

### Discussion:

Female infertility due to presence of endometriosis is a treatable condition, which if detected and treated early can allow the female to achieve motherhood. In developing world nations it is still a condition which is detected when the patient undergoes laparotomy, which has its own attendant morbidity and mortality.

At the department of obstetrics and gynaecology, S.K.I.M.S, Medical College we decided to use laparoscopy as a diagnostic tool in patients of infertility. We intended to find whether laparoscopy has a role in early detection and management of patients who had endometriosis as a cause for their infertility.

Majority of our patients were in the age group of 21 to 30 years, which is a social indicator of the age at marriage in our females. This was similar to other series of patients found in the published English literature. Most of our patients were being investigated for primary infertility, as is the scenario found worldwide. Endometriosis was identified as a cause of primary infertility in majority of our patients as is found worldwide<sup>11</sup>. Only 14 percent of the patients were detected to have an ovarian cyst/endometrioma on radiological evaluation.

The role of laparoscopy as a diagnostic tool was elucidated by our study as we found presence of stigmata of endometriosis in 21.45% of the patients<sup>11,12</sup>. This was an important step in the management of these patients as a comprehensive protocol for active management of endometriosis was started in these patients. As the benefits of the minimal access intervention of laparoscopy is recognised world over, so was the case scenario with us. The reduced pain, incision site, hospital stay and overall quicker return to normal daily routine helped our patients and increased their satisfaction. This was also a conclusion in various other studies.

We also staged the grade of endometriosis as per the guidelines of the American fertility association to streamline the management of these patients<sup>12</sup>.

### Conclusion:-

This prospective case series of patients investigated the association of infertility and endometriosis and found a definite link between the two. The role of laparoscopy as a diagnostic tool was elucidated. It is recommended that laparoscopy should be used a tool for diagnosis, staging and if possible management of endometriosis in those patients who have infertility.

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