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Research Article

Preliminary Results of the Value of Diagnostic and Operative Laparoscopy in the Assessment of Female Infertility in 33 Patients

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Abstract

Infertility is defined as a disease of the female or male reproductive system; it is the inability to conceive a child after a year of unprotected sexual intercourse. It constitutes a real public health problem today due to its prevalence, the generalization of its distribution, and the difficulties inherent in its management. According to the World Health Organization, infertility affects 70 million people worldwide, with one in six couples facing primary or secondary infertility.

Algeria is not spared from this epidemic, more than 300,000 couples are unable to conceive a child naturally. This statistic translates to, approximately, between 10% and 12% of the targeted population. The main objective of this study is to determine the diagnostic and therapeutic value of laparoscopy in female infertility,

The methodology: the collection of patients was made over two years from 2021 to 2023, respecting the inclusion criteria (female infertility) and exclusion (any cause of uterine origin, male cause). We note that adhesions are the most frequent lesions, they are present in 44% of cases, tubal pathology is found in 31% of cases, ovarian dystrophy in 25% of cases, endometriosis in 41% of cases, and endometriotic cyst in 21% of cases.

The most commonly performed procedure is adhesiolysis in 23% of cases, cystectomy in 21% of cases, 10% fimbrioplasty, and 21% ovarian drilling.

Introduction

Infertility currently constitutes a social phenomenon due to its frequency (10% of women of childbearing age) [1], the psychological, social, and economic repercussions that it generates, the significant duration of the assessment that it imposes, and the difficulty of its treatment [2].

Endoscopy; since its advent has made it possible to resolve several infertility problems including tubal pathology, endometriosis, polycystic ovary syndrome, and adhesions [3].

The systematic use of diagnostic laparoscopy for the evaluation of all cases of female infertility is currently debated [4].

Laparoscopy remains to this day the gold standard of diagnostic examinations in female infertility, it is often neglected in favor of a transition to in vitro fertilization "IVF", its place in the diagnostic strategy and therapeutic must be clearly defined in order to adapt the management of female infertility and potentiate its chances of natural pregnancies and by assisted medical procreation "PMA" [5].

Studies have shown the improvement in fertility after laparoscopic treatment of peritoneal endometriotic lesions, as well as the discovery of tubal anomalies in approximately 28% of cases despite normal hysterosalpingography [6,7].

The frequency of laparoscopic anomalies is greater when it concerns secondary infertility and unexplained infertility.



These studies are therefore based on the principle of systematic inventory laparoscopy [7].

The situations that should justify the performance of a diagnostic laparoscopy without any significant male etiology are as follows:

In the second-line treatment of polycystic ovaries after failure of induction with clomiphene citrate [8].

In total, if laparoscopy has long been considered essential in the exploration of female infertility, its place must be reconsidered in diagnostic and therapeutic care and the question that arises is that of the systematic practice of laparoscopy with methylene blue test even in the case of normal tubes on hysterosalpingography.

Systematic for any tubal pathology suspected on hysterosalpingography [9], in order to establish a tubal prognosis

- Precise and propose a suitable treatment (fimbrioplasty, neosalpingostomy, tubal recanalization, salpingectomy), laparoscopy is considered a means of choice for the diagnosis and treatment of distal tubal obstructions [10].
- Strong suspicion of pelvic pathology whose treatment can improve the prognosis of fertility (endometriosis) [10].
- In the case of light and moderate adhesions, the probability of pregnancy after adhesiolysis is 57% at 12 months and 24 months [11].

Unexplained infertility (investigational assessment) since pelvic pathologies isolated or associated, hitherto unknown discovered in 60% of cases [10].

Objectives

Primary objective: Determine the role of laparoscopy in the diagnostic and therapeutic management of female infertility.

Secondary objective:

- Describe an epidemiological profile of female infertility.
- Determine the diagnostic value of laparoscopy in unexplained infertility.
- Describe the causes of female infertility based on the results of laparoscopy and their comparative frequency in primary and secondary infertility.
- Evaluate the concordance between the laparoscopic results with methylene blue and those of hysterosalpingography.

Methodology

Recruitment of Cases

During the period between the first registration and the second, 33 patients were recruited and included in the study,

which represents 50% of the patients. The first patient was recruited on October 2, 2022.

The start date of the study is June 1, 2022, with the development of the questionnaire. Collection of necessary information from 33 patients on questionnaires. Approximately 30% of thesis advancement is completed. Statistical analyses were performed using SPSS.

Preliminary results

The preliminary results relate to the 33 patients hospitalized 100% in Ehs Nouar Fadela Oran. The statistical analysis program used was SPSS.

Distribution of patients by age group

The ages of the patients vary greatly, with the youngest patient being 24 years old and the oldest being 45 years old. The average age is 34 years old. The peak frequency is in the age group over 35 (43% of patients). The distribution of patients according to age is shown in Table 1 and Figure 1.

Distribution of patients according to type of infertility

As shown in Figure 2, 61% of the patients had primary infertility and 39% had secondary type of infertility.

Table 1: Distribution of patients according to age.

Age	Number	Percentage (%)
20-25	2	6
26-30	12	36
31-35	5	15
>30	14	43

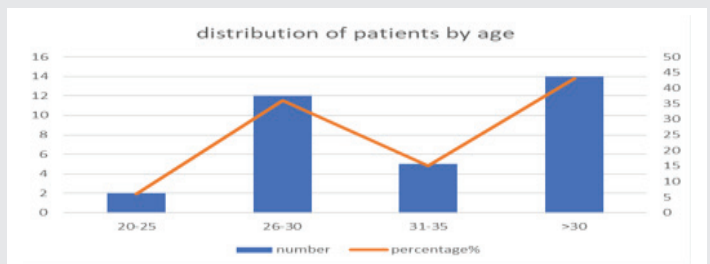


Figure 1: Distribution of patients by age group.

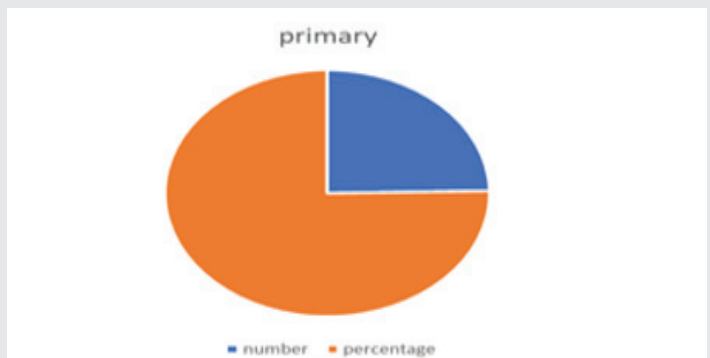


Figure 2: Distribution of patients according to type of infertility, where the primary is 61%, and secondary is 39%.

Distribution of patients according to results of hysterosalpingography

According to the hysterosalpingography results, it was found that 37% had permeable ruptures, 33% had unilateral tubal obstruction, 21% had bilateral tubal obstruction, 6% had unilateral hydrosalpinx, and 3% had bilateral hydrosalpinx among patients (Figure 3).

Anomalies found at laparoscopy

According to the laparoscopy results, anomalies in the appearance, minimal, moderate, or severe endometriosis, endometriotic cyst, adhesion, tubal pathology, normal, and ovarian dystrophy respectively are shown in Figure 4 for primary and secondary subfertility patients.

Distribution of laparoscopy procedures

The laparoscopy procedures the patients underwent were cystectomy, fimbrioplasty, electrocoagulation of endometriotic nodules, adhesiolysis, ovarian drilling, or none (Figure 5).

Distribution of pregnancies after laparoscopy

Figure 6 shows the percentage of pregnancies after laparoscopy for the study population.

Discussion

We note that adhesions are the most frequent lesions, they are present in 44% of cases. Tubal pathology is found in 31% of cases. Ovarian dystrophy in 25% of cases. Endometriosis

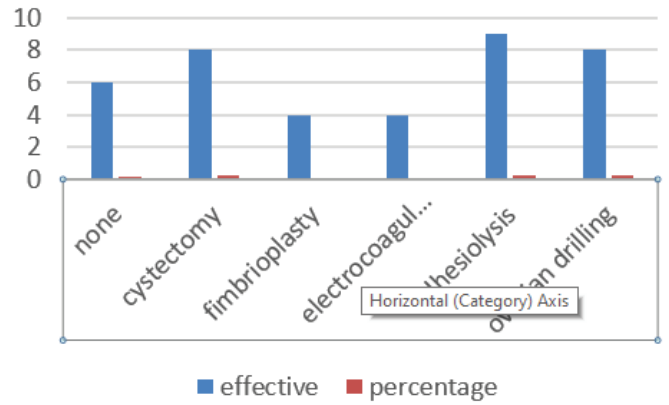


Figure 5: Distribution of Laparoscopy procedures the patients underwent.

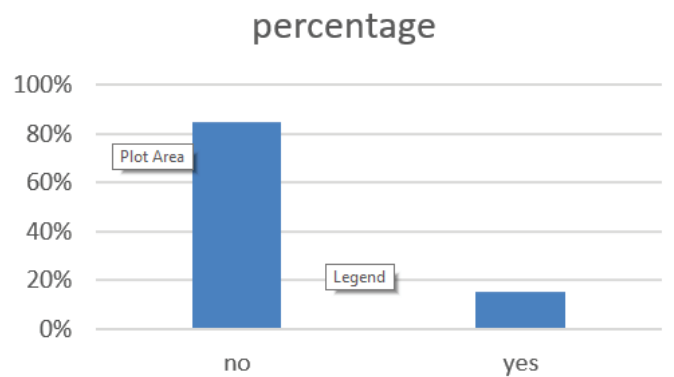


Figure 6: The percentage of pregnancies after laparoscopy.

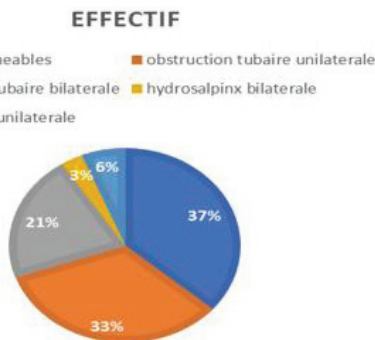


Figure 3: Distribution of patients according to the hysterosalpingography results.

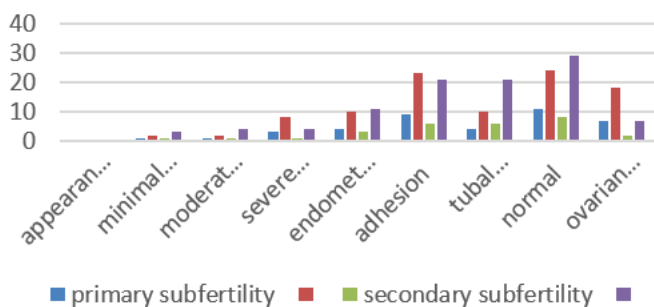


Figure 4: Anomalies found by laparoscopy for primary and secondary subfertility patients.

in 41% of cases, endometriotic cyst in 21% of cases the most commonly performed procedure is adhesiolysis in 23% of cases, cystectomy in 21% of cases, 10% fimbrioplasty and in 21% ovarian drilling.

Conclusion

At the end of our first study, we retain the following elements:

- Tubo-peritoneal sterility is one of the main causes of female infertility.
- The etiologies are essentially: adhesions and endometriosis.
- Laparoscopy constitutes the best means of exploring tubal and peritoneal lesions as well as checking tubal permeability highlighting lesions not visualized on hysterosalpingography.

Consent of patients

The procedure of the intervention was explained to each couple with clearly informed consent being obtained.

Review committee; faculty of medicine of Oran Algeria for obtaining a doctoral diploma in medicine (these).



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