Analysis of 122 Cases of Hysterosalpingography on Women Infertile in Libreville (Gabon)

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Abstract

Objectives: To describe and analyse the lesions observed during hysterosalpingography in infertile married women.

Patients and methods: We conducted a cohort descriptive and analytical study with retrospective recruitment from 1st January to 31st December 2010 at Josephine Bongo maternity hospital. Married female patients who consulted for infertility were included in this study.

Results: We included 122 patients. Infertility accounted for 0.48% of consultations. The average age was 32.07 ± 7 years with dominant secondary infertility (82.8%); no visible means of support 64.28 ± 3% and average duration of infertility was 6.28 ± 3 years. The report of infection screening detected 78.65% of positive chlamydial serology. Tubal affections (81.45%) were the main lesions observed during hysterosalpingography. Among them, 61.71% concerned both ends of fallopian tubes (43.20% distal and 18.51% proximal).

Conclusion: Tubal affections are the main causes of infertility in women in Gabon. Genital infections are the major risk factors. Health care teams should be aware of the emergency treatment of female genital infections and a centre for medically assisted reproduction should be set up.

Keywords: Infertility; Chlamydia trachomatis; Hysterosalpingography; Gabon

Introduction

Infertility is defined as the absence of pregnancy in a couple of reproductive age till 24 months of regular and unprotected sexual intercourses. Several factors were identified: demographic, socioeconomic, psychological and medico-surgical factors [1]. Gabon distinguishes itself by a low birth rate (3.5%) [2] and a low demography (1,500,000 inhabitants in 2005) [3]. In our context, managing infertile couples is difficult and not organized. Difficulties lie in the low level of the social status of most of our patients which provides with a limited access to modern means for investigating infertility, in addition to which there is the scarcity of technical support centres. Conventional radiography and ultrasound are currently available. Thus we can easily perform a Hysterosalpingography (HSG) or a Pelvic Ultrasound (PU).

HSG is a first line examination in our practice in this case. Every previous series carried out in Gabon and in the rest of sub-Saharan Africa showed the impact utero-tubal affections in the occurrence of infertility [4-6]. We report the results of a descriptive study of women in infertile couples Libreville. The aim of this study was to describe and analyse the lesions found during HSG (the most frequent, the most difficult to treat and the one that could be managed with surgical therapy), for a better therapeutic indication and the implementation of a centre of medically Assisted Reproduction Technology (ART).

Patients and Methods

This is a retrospective and descriptive study carried out at Josephine Bongo university maternity hospital. The duration of the study was spread over 1 year, from January 1st to December 31st, 2010. Patients living as a couple for 2 years or more and who had consulted for infertility were included. Management consisted of a complete clinical examination and a first-line paraclinical examination comprising of a Hysterosalpingography (HSG), a pelvic ultrasound, whenever a clinical point of care was available and an infection screening limited to a Chlamydia trachomatis Serology (CS) test and a C-Reactive Protein (CRP) test. The significant presence of immunoglobulin A was in favour of a Chlamydia trachomatis active infection and the CRP test was considered positive when the rate was higher than 15 milligrams per litre. HSG was performed with antibiotic prophylaxis during the follicular phase comprising between the 8th and the 11th day using a iodinated hydro soluble contrast medium (TELEBRIX HYSTERO®). All the results were interpreted by the radiologist. Data were recorded on a record form so as to study the following parameters: socio-demographic characteristics (age, marital status, and occupation), type and duration of infertility, history (parity, gestation, abortion, pelvic surgery, and sexually transmitted infections), clinical data and the results of the HSG, PU, CS and CRP tests. Only incomplete records were excluded from this study. Data were captured and analysed with Epi info version 6.0.4 software. Results were stated in average ± for quantitative variables, and in percentage for qualitative variables. Descriptive univariate and comparative bivariate analysis were performed for quantitative variables using the Chi² test. p<0.05 was considered a significant threshold.

Results

During the period of the study, we retained 122 cases, i.e. 0.48%; 21 patients (17.21%) consulted for primary infertility, and 101 (82.8%) for secondary infertility.

Age

The average age was 32.07 ± 4 years with 21 and 45 as extreme values. The most affected age group was that of 30-35 years (Table 1).

Keywords: Infertility; Chlamydia trachomatis; Hysterosalpingography; Gabon

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Social status

Forty eight patients (39.34%) were married, 74 (60.65%) were single and 78 (64%) had no visible means of support.

History

The average gestation was 2.36 ± 1 pregnancies with 0 and 9 as extreme values; the average parity was 1.08 ± 1 para with 0 and 5 parae as extremes. Among them, 21 (17.22%) were nulligravidae and 48 (39.34%) nulliparae (Table 1). On average the last child was 5.70 ± 5 years old with extremes of 0 and 21, and the average duration of infertility was 6.28 ± 3 with extremes of 2 and 21 years. Induced abortions were found in 79 (64.75%) cases, pelvic surgery was found in 22 (35.24%) cases and sexually transmitted infections in 70 (53.37%) cases.

Results of additional examinations

HSG was pathological in 81 (66.40%) of cases (Table 2). In this group, 35 (43.20%) cases of Bilateral Distal Tubal Occlusion (BDTO) and 15 (18.51%) cases of Bilateral Proximal Tubal Occlusion (BPTO) were found (Table 3). Diseases according to age, duration of infertility, gestation and parity found during of the HSG are illustrated in table 4. Ultrasonography was contributory in 8 cases (6.55%). CRP test was found positive in 92 patients (75.41%), among which 87 (94.66%) had a positive chlamydial serology. Chlamydia trachomatis infection was found in 96 (78.69%) patients of which 69 (71.87%) versus 27 (28.13%) (p<0.001) were found with a lesion during the HSG. This infection screening was found negative in 26 (21.35%) patients, and 14 (53.84%) versus 12 (46.15%) patients (p<0.062) (Table 5) were not detected with any lesion during the HSG.

Discussion

Josephine Bongo Maternity Hospital is located in the periphery of Libreville (Owendo). Owendo is located in a maritime industrial development area. It houses the faculty of medicine and its population is estimated at 50,000 inhabitants. Very few women consulted for infertility and we included only 122 patients in this study, i.e. 0.48%. This figure is far from being the reality of infertility in our country. Infertility is very significant in Gabon. Zinsou et al. [5] found 47% in 1980 and Meyé et al. found 40% [4] in 2007. In all probability, fertility decreased due to the improvement of women’s health status in Gabon. In France, prevalence of infertility is estimated at 15% [1]. Our figure is negligible because our institution mainly receives gestants. The epidemiological and clinical features of the patients included in our series do not differ from those of other series studied in the sub-region [6,7]. The average age is 32 years, without means of support, usually with secondary (82.28% in our series) and tubal (66.40%) infertility. Therefore, HSG was obvious to us and became a first-line examination in the evaluation of female infertility. It provides with information on the integrity of the uterine cavity, tubal permeability and the existence of peritubal adhesions [8,9]. Tubal affections were the most frequently found lesions (81.48%). This figure is very high. It is similar to that found by Meyé et al. [1] in 2007. In all probability, fertility decreased due to the improvement of women’s health status in Gabon. In France, prevalence of infertility is estimated at 15% [1]. Our figure is negligible because our institution mainly receives gestants. The epidemiological and clinical features of the patients included in our series do not differ from those of other series studied in the sub-region [6,7]. The average age is 32 years, without means of support, usually with secondary (82.28% in our series) and tubal (66.40%) infertility.

Chlamydia trachomatis infection was found positive in 92 patients (75.41%), among which 87 (94.66%) had a positive chlamydial serology. Chlamydia trachomatis infection was found in 96 (78.69%) patients of which 69 (71.87%) versus 27 (28.13%) (p<0.001) were found with a lesion during the HSG. This infection screening was found negative in 26 (21.35%) patients, and 14 (53.84%) versus 12 (46.15%) patients (p<0.062) (Table 5) were not detected with any lesion during the HSG.
as age is concerned, tubal diseases were more regularly found in the 26-35 years group. It was lesser in the minima of the age extremes. This would certainly be linked to importance of sexual activity and the number of partners. The duration of infertility was difficult to access and expensive modes of investigation in our context. They are complementary to HSG, laparoscopy and hysteroscopy are managed with surgical therapy especially laparoscopy. Although they are difficult to access and expensive modes of investigation in our context. The recent acquisition of new technical support centres may provide preventive 30% of first-line laparoscopy for infertility investigation [12]. It has another benefit. A Cochrane database meta-analysis performed in 2007 showed that this examination increases the rate of spontaneous pregnancies through its "flushing" effect on fallopian tubes and helps prevent 30% of first-line laparoscopy for infertility investigation [12]. This is an effective examination for the exploration of the uterine cavity [13]. We have not found in the literature series praising the superiority of hysteroscopy in comparison to HSG in terms of sensitivity and specificity in this case. As far as tubal abnormalities are concerned, its diagnostic effectiveness was addressed in many publications [13-15]. HSG proved to be effective with a sensitivity between 81% and 84% but less specific (61 and 74.5% depending on the series) especially for proximal occlusions. Selective salpingography, hystersonography and laparoscopy may improve this relative lack of specificity [13,15]. These examinations are difficult to perform in our context.

Conclusion

The epidemiological profile of the female in a childless couple did not evolve significantly in our country. It features a young woman without visible means of support. Mostly it is a secondary infertility of infectious origin. HSG is a significant support for the diagnosis of anatomic lesions. It is reproducible and non-invasive. It has been recommended for years as first-line intervention for the management of infertile couples in our practice and for health care teams aware of emergency treatment of female genital infections. Concerning the importance of tubal affections, a subsidized centre of medically assisted reproduction technology must be implemented in our country.