Infertility in women: Hysterosalpingographic assessment of the fallopian tubes in Lagos, Nigeria

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Tubal disease constitutes a major factor in infertility especially in developing countries. This study was undertaken to assess the hysterosalpingographic patterns seen in infertile patients in an urban centre in Lagos. Two hundred and twenty patients who reported from the gynaecology clinic to the radiology department of Lagos State University Teaching Hospital were subjected to hysterosalpingography, and the results were analyzed for tubal pathology as revealed on radiographs. One hundred and eighty five (84%) patients had secondary infertility while 35(16%) had primary infertility. The commonest pathology found on hysterosalpingography in patients presenting with infertility in this study was tubal blockage, whether unilateral or bilateral, followed by hydrosalpinx of one or both fallopian tubes. Eighty four (38.2%) patients had both fallopian tubes opacified and were classified as normal, while in 22(10%), both tubes were not seen. Of the opacified abnormal fallopian tubes, bilateral hydrosalpinx was diagnosed in 6 patients (2.7%), while right and left sided hydrosalpinx were seen in 6(2.7%) and 8(3.6%) patients respectively. There was evidence of loculated peritoneal contrast spills from 10(4.5%) on each of the sides and from both tubes in 2(1%) patients. The high prevalence of tubal pathology was demonstrated in this study but the contribution of hydrosalpinx is much less than findings from other centres in the sub region.

Key words: Infertility, hysterosalpingography, tubal pathology.

INTRODUCTION

Infertility is defined as the inability of a couple to achieve conception after 12 months of unprotected coitus of average frequency (Eskondari and Cadieux, 2003).

In tropical Africa, infertility rate is said to be 10 - 20% (Bello, 2004; Pollard, 1994), while in developed countries it is rated at 5 - 15% (Bello, 2004; Belsey, 1976). One of the commonest causes of infertility in Sub-Saharan Africa is pelvic inflammatory disease (PID), which is now on the increase (Adetoro et al., 1990; Lees and Highman, 1998). Tubal factor accounts for 15 - 30% of infertility in all women in developing countries with high rates of pelvic inflammatory disease and limited resources (Hoffman et al., 2005). Some authors, (Lash MM et al., 2008) have demonstrated a higher likelihood of fallopian tube obstruction on HSG in women with secondary infertility when compared with those with primary infertility and recommend routine evaluation for tubal patency in patients with secondary infertility.

Others have however suggested that the value of HSG is in its high specificity in diagnosing tubal pathology and its fertility enhancing effect in patients who had previously tested negative for chlamydia trachomatis (Den Hartog et al., 2008). Hysterosalpingography is a radiological procedure used to demonstrate the uterine cavity and the fallopian tube lumen using contrast medium. It is a valuable technique in the evaluation of an infertile patient. Despite the development of other diagnostic tools, such as, Magnetic Resonance Imaging, Hysteroscopy and Laparoscopy, it remains the main examination for the fallopian tubes in developing countries (Ubeda et al., 2001). This study was undertaken to analyze the radiological pattern of tubal pathology in patients being investigated for infertility in this environment.

MATERIALS AND METHODS

All 220 patients who presented in the gynaecology clinic for infertility management and were referred to the radiology depart-
Table 1. Pattern of tubal pathology as revealed by HSG

<table>
<thead>
<tr>
<th>Finding</th>
<th>Number</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both tubes seen and normal</td>
<td>84</td>
<td>38.2</td>
</tr>
<tr>
<td>Both tubes not seen</td>
<td>22</td>
<td>10</td>
</tr>
<tr>
<td>Right tube only seen</td>
<td>32</td>
<td>14.5</td>
</tr>
<tr>
<td>Left tube only seen</td>
<td>38</td>
<td>17.3</td>
</tr>
<tr>
<td>Hydrosalpinx of both tubes</td>
<td>6</td>
<td>2.7</td>
</tr>
<tr>
<td>Right tube Hydrosalpinx</td>
<td>6</td>
<td>2.7</td>
</tr>
<tr>
<td>Left tube Hydrosalpinx</td>
<td>8</td>
<td>3.6</td>
</tr>
<tr>
<td>Beaded fallopian tube</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Proximal part of Right tube seen</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Right tube with loculated spill</td>
<td>10</td>
<td>4.5</td>
</tr>
<tr>
<td>Left tube with loculated spill</td>
<td>10</td>
<td>4.5</td>
</tr>
<tr>
<td>Bilateral Loculated spill</td>
<td>2</td>
<td>1.0</td>
</tr>
</tbody>
</table>

RESULT

Total number of patients examined was two hundred and twenty. One hundred and eighty five patients (84%) had secondary infertility while 35(16%) had primary infertility. The age range of the patients was between 23 and 38 years with a mean of 28 years and 4 months. Table 1 illustrates the HSG findings.

Of the two hundred and twenty patients, 84(38.2%) had normal uterine cavities and the fallopian tubes were outlined with normal calibre and free peritoneal spill (Figure 1). The fallopian tubes were classified bilaterally blocked in 22(10%) patients while only the right tube was blocked in 38(17.3%) patients (Figure 2) and only the left tube was blocked in 32(14.5%). Bilateral hydrosalpinx was demonstrated in 6(2.7%), right hydrosalpinx in 6(2.7%) and left, in 8(3.6%) patients (Figure 3). The fallopian tube was beaded in one patient (0.5%). The fallopian tubes gave loculated peritoneal spills bilaterally in 2(1%) patients and in 10(4.5%) patients each in the right and
DISCUSSION

Infertility is considered a stigma and a major public health problem in Africa which can cause great family problems, instability and suicidal tendencies Akande (1987). A large percentage of the patients in this study presented with secondary infertility, which compares with earlier works done (Bello, 2004; Belsey, 1976; Adetiloye, 1988; Odita, 1987). This could be attributed to postpartum and post-tubal infections, (Bello, 2004; Belsey, 1976). The fact that secondary infertility is the commonest indication, points to pelvic infection complicating, mismanaged pregnancies, septic abortions or sexually transmitted disease (Kiguli-Malwade and Byanyima, 1994).

Hydrosalpinx is the most common tubal pathology reported in most studies (Horwitz et al., 1979; Sanfillipo et al., 1978; Thurmond and Rosch, 1990). The incidence of Hydrosalpinx (9%) whether bilateral or unilateral was however less in this study than similar studies done in Ilorin by Adetiloye (1988), (44.5%) and Bello (2004), (23.3%). This might be because of the cosmopolitan nature of Lagos and probably easier access to better healthcare delivery system now in the city. The prevalence of tubal abnormalities demonstrated in the present study was 61.8%. This is much higher than that found by Sinawat et al. 2005, in which tubal abnormalities were detected in only one-fourth of all infertile females and similar studies (Horwitz et al., 1979). However, the use of antispasmodics (Crofton and Jenkins, 2003), was employed to minimize the effect of spasm in this study. A lot of researchers found that the presence of the appendix on the right side may predispose to increased pelvic inflammatory disease on the right side with resultant hydrosalpinx, (Adetiloye, 1988). This was not found in this study.

Other modes of studying the fallopian tubes are selective ostial salpingography and Hysterosalpingo-contrast sonography using a special contrast medium, Echovist 2000 (Bello, 2004; Crofton and Jenkins, 2003; Bulleti et al., 2008).

The usually quoted complications of hysterosalpinography, Bello (2004), were not observed in this study. The concurrence of findings in studies that compared hysterosalpingography with laparoscopy, (Lavy et al., 2004) suggest that in low resource settings, it remains a very vital diagnostic tool in the assessment of the infertile female patients.

REFERENCES

Sinawat J, Praman, and Bello (2004), suggest that in low resource settings, it remains a very vital diagnostic tool in the assessment of the infertile female patients.