Evaluation of Hysterosalpingography (HSG) findings among suspected infertile women at Abubbakar Tafawa Balewa University Teaching Hospital (ATBUTH) Bauchi

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Accepted 22 February, 2016; Published 13 March, 2016

To determine the common pattern of findings among suspected infertile women and to relate the findings with age. A retrospective cross sectional review of 290 reports investigated for infertility from May, 2013 to May, 2014 using a convenient sampling technique. Data capture sheet was used to elicit information and designed to include patient’s age, clinical indication and findings. Out of the total 290 patients' report reviewed, normal findings were 181 (62.41%), findings classified to be tubal blockage are 33 (11.38%) and those classified under uterine fibroid are 16 (5.52%). From the study, more pathologies can be classified as multiple myoma 5 (1.72%), bilateral tubal adhesion 6 (2.07%), uterine adhesion 24 (8.28%), cervical adhesion 6 (2.07%), cervico-uterine adhesion 7 (2.41%), hydrosalpinx with spillage 10 (3.45%), and rotated uterus 2 (0.69%). The age range of 20-29 has the highest frequency of 136 and the lowest frequency was 12 which were seen in 10-19 years age range. And also, 123 (42.4%) were investigated for primary infertility, 164 (56.6%) were investigated for secondary infertility, while 3 (1.0%) were investigated for sub fertility. The common pattern of HSG finding is normal, followed by tubal blockage with age range of 20-29 having the highest frequency.

Key words: Hysterosalpingography, infertility, pattern.

INTRODUCTION

Hysterosalpingography is a fluoroscopically guided contrast examination of the female genital tract using about 10 to 20mls of contrast media usually urografin in our environment (Agwuna and Anyanwu, 2008). Infertility is the inability of a couple to establish pregnancy within a certain period (one year) of unprotected coital exposure. Infertility could be primary or secondary. Primary infertility is the condition of those who have never conceived in their life time (Janathan, 2001; Kawuwa et.al, 2005). The definition of infertility varies considerably. It is however, often defined as the inability of a couple to achieve pregnancy within a period not less than a year of adequate unprotected coitus (Eze et al., 2013). Whereas secondary infertility which is the commonest is applied to those who have conceived at some time in the past. The prevalence of infertility is high and the widespread of HSG as a basic radiologic tool and its increasing availability in the country, therefore there is high probability of making accurate diagnosis of infertility which will lead to prompt treatment where possible and this will in the long run bring down this high prevalence rate (Agwuna and Anyanwu, 2010).

Worldwide, more than 70 million couples suffer from infertility, majority being residents of developing countries. Negative consequences of childlessness experienced to a greater degree in developing countries when compared with western societies. It is a major clinico-social issue in sub Saharan Africa and in other parts of the world (Eze et al., 2013). Bilateral tubal occlusions due to sexually transmitted diseases and pregnancy related infections are the most common causes of infertility in developing countries (Eleje et al., 2012). In many cultures, womanhood is defined through
motherhood and infertile women usually carry the blame for the couples’ inability to conceive (Aqwuna and Anyanwu, 2010).

HSG is the most frequently used diagnostic tool to evaluate the infertility (Eze et al., 2013). However, meticulous and well executed procedure performed provides accurate information about endocervical canal diameter and configuration of the internal canal, location and direction of fallopian tubes and spillage into the peritoneal cavity.

HSG is still an integral part of gynecological evaluation of infertile couple and its value has not been underestimated in the modern gynecological practice especially in developing countries (Ibekwe et al., 2010). Tubal factor is the commonest cause of infertility seen in gynecological clinics in Nigeria (Audu et al., 2010). While the patients’ history and physical examinations are the building blocks of making medical diagnosis, the ability of the imaging modalities to scan through the body can be a powerful tool in confirming diagnosis (Keir et al., 2004).

Hysterosalpingography (HSG) demonstrates the morphology and patency of both the uterine canal and fallopian tubes (Perguin et al., 2006).

The aim of this study is to identify the common pattern of HSG findings for suspected infertile women at the Abubakar Tafawa Balewa University Teaching Hospital Bauchi (ATBUTH).

MATERIALS AND METHODS

A retrospective, cross-sectional design was employed for this research with data collected from the record book in the archive of the radiology department, ATBUTH, Bauchi. All reports (290 patients information) that met the inclusion criteria within the study period were used. A data capture sheet designed to include age, clinical indications, findings and date of examination was used to elicit information. Data was been analyzed using SPSS version 16.0. Descriptive statistic was used where frequency and percentage were obtained and presented in table and bar chart.

RESULTS

Out of the 290 patients’ report reviewed, normal findings were 181 (62.41%), findings classified to be tubal blockage are 33 (11.38%) and those classified under uterine fibroid are 16 (5.52%). more pathologies seen are multiple myoma 5 (1.72%), bilateral tubal adhesion 6 (2.07%), uterine adhesion 24 (8.23%), cervical adhesion 6 (2.07%), cervico uterine adhesion 7 (2.41%), hydrosalpinx with spillage 10 (3.45%), and rotated uterus 2 (0.69%) (Figure 1).

The age range of 20-29 has the highest frequency of 136 and the lowest frequency was 12 which are seen in 10-19 years age range. And also, 123 were investigated for primary infertility, 164 were investigated for secondary infertility, while 3 were investigated for sub fertility (Figure 2, Tables 1 and 2).

DISCUSSION

Hysterosalpingography is still one of the commonest requested tests for infertility in the world (Ubeda et al., 2000; Idrisa et al., 2003; Eleje et al., 2012). The preferred time to perform Hysterosalpingography is at least 10 days after the onset of menstrual flow when the isthmus is at its most distensible and the fallopian tubes are most readily filled by contrast medium. The high sensitivity of Hysterosalpingography in identifying uterine and tubal pathologies makes it an important diagnostic tool for uterine and tubal condition in our environment (Bukar et al., 2011).

The commonest findings among patients presenting for HSG due to suspected infertility from this work is normal studies, with frequency of 181 (62.41%) which may be a true positive test because the causes of infertility could be a male or female factor (Simon, 2009). It is also in agreement with the work conducted by Anderian et al. (2012) on HSG, in the work up of female infertility, it was discovered that, out of 411 HSG examination, 226(55%) were normal. Although laparoscopy provides more information than HSG in detecting tubal or endometrial pathologies (Bukar et al., 2011). This contradict the study done by Eze et al. (2013) and Eleje et al. (2012) at Benin and Nnewi in Nigeria respectively on spectrum of HSG findings among suspected infertile women. In their findings, tubal occlusion is the commonest pattern of findings which they attributed to high incidence of pelvic inflammatory diseases in their locality. Another reason for the discrepancy could be due to the fact that ladies are not exposed to multiple sex partner or casual sex early, but do get married at tender age in our locality.

The next common finding is tubal occlusion which happens to be the commonest findings in studies conducted in a south-Eastern and South-South hospital in Nigeria.

Most of the findings of this study fall within the age range of 20-29 which is not in agreement with the work done by Eleje et al. (2012) and Eze et al. (2013). Their common age affected and also presented for HSG were 35-39 and 34-39 respectively. This could also be attributed to the fact that this work was done at Bauchi state which is a North Eastern state. In this part of the country the women folks are given into marriage at early age, especially once a lady has shown physical and reproductive maturity. Also most secondary school certificate holders are encouraged to get married. Another reason may be attributed to religious and culture affiliations which is common among the Muslim and of which a greater part of the North are Muslims.
In this study, secondary infertility is higher than primary infertility 164 (56.6%) and 123 (42.4%) respectively which is in keeping with the study conducted by Malwadde et al. (2004) and Eze et al. (2014), secondary infertility was higher than primary infertility. This may be due to pelvic inflammatory disease which has been reported in many
Table 1. Findings with age cross tabulation.

<table>
<thead>
<tr>
<th>Findings</th>
<th>10-19</th>
<th>20-29</th>
<th>30-39</th>
<th>40-49</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal findings</td>
<td>18</td>
<td>79</td>
<td>76</td>
<td>8</td>
<td>181(62.4%)</td>
</tr>
<tr>
<td>Multiple myoma</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>5(1.7%)</td>
</tr>
<tr>
<td>Bilateral tubal adhesion</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>6(2.1%)</td>
</tr>
<tr>
<td>Uterine fibroid</td>
<td>0</td>
<td>5</td>
<td>10</td>
<td>1</td>
<td>16(5.5%)</td>
</tr>
<tr>
<td>Tubal blockage</td>
<td>1</td>
<td>18</td>
<td>12</td>
<td>2</td>
<td>33(11.4%)</td>
</tr>
<tr>
<td>Uterine adhesion</td>
<td>0</td>
<td>15</td>
<td>9</td>
<td>0</td>
<td>24(8.3%)</td>
</tr>
<tr>
<td>Cervical adhesion</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>6(2.1%)</td>
</tr>
<tr>
<td>Cervico uterine adhesion</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>7(2.4%)</td>
</tr>
<tr>
<td>Hydrosalpinx</td>
<td>0</td>
<td>4</td>
<td>6</td>
<td>0</td>
<td>10(3.5%)</td>
</tr>
<tr>
<td>Rotated uterus</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2(0.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>130</td>
<td>128</td>
<td>13</td>
<td>290(100%)</td>
</tr>
</tbody>
</table>

Table 2. Indication with age crosses tabulation.

<table>
<thead>
<tr>
<th>Indications</th>
<th>10-19</th>
<th>20-29</th>
<th>30-39</th>
<th>40-49</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary infertility</td>
<td>8</td>
<td>60</td>
<td>52</td>
<td>3</td>
<td>123(42.4%)</td>
</tr>
<tr>
<td>Secondary infertility</td>
<td>4</td>
<td>74</td>
<td>76</td>
<td>10</td>
<td>164(56.6%)</td>
</tr>
<tr>
<td>Sub-fertility</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>3(1.0%)</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>136</td>
<td>129</td>
<td>13</td>
<td>290(100%)</td>
</tr>
</tbody>
</table>

The common pattern of findings as seen in this locality is normal findings next to tubal occlusion with age group of 20-29 most affected. Secondary infertility was reported for majority of the patient.

Conclusion

The common pattern of findings as seen in this locality is normal findings next to tubal occlusion with age group of 20-29 most affected. Secondary infertility was reported for majority of the patient.

REFERENCE


