HYSTEROSALPINGOGRAM (HSG) SERVICE AT ARI - REAUDIT

Dr. Yajur Narang[1], Dr. Anjali Nandakumar[2]

DEPARTMENT OF RADIOLOGY, ABERDEEN ROYAL INFIRMARY, ABERDEEN, SCOTLAND, UK

BACKGROUND

Hysterosalpingogram (HSG) is most commonly performed as part of a series of investigations for infertility. HSG is a radiological procedure performed using fluoroscopy to examine the uterine cavity and fallopian tubes with the aim of establishing the patency of the fallopian tubes. As well as establishing patency of the fallopian tubes, HSG can be used to detect other tube pathologies such as polyps, submucous fibroids, uterine septums and hydrosalpinx.

HSG should be performed during the follicular phase of the menstrual cycle ideally between days 6 to 12 when the endometrium is thin to optimise visualization of the uterine cavity and avoid pregnancy. There is variability in how they are performed in different trusts. Some departments use trained radiographers or nurses to provide the service, sometimes a gynaecologist, and some radiologists.

In our department we routinely do pregnancy tests to ensure it is safe to carry out the procedure and at the time of reviewing the appointment patients are advised that they should practice contraception/abstinence prior to attending for the examination. The procedure is predominantly performed by radiographers.

THE CYCLE

- Screening time limit 42 seconds (HPA standard)
- National dose limit 200cGycm2 (HPA standard)

STANDARD TARGET
- 100% compliance with dose and screening times
- 100% cervical cannulation success
- 95% diagnostic quality images
- 95% cervical cannulation success
- Mean screening time 44.53 seconds
- Mean 44.53 seconds

METHODOLOGY

Data collection: Patients referred for HSG were identified using Radiology Information System (RIS) database.

Sample size: 91 patients were identified from RIS, referred from July 2016 to July 2017. Of these 91 patients, 28 were referred for HSG to check Essure positioning and were excluded. 1 procedure was abandoned due to uncited reasons.

RESULTS

- Average cervical cannulation success rate 97% (95% confidence interval 94% to 99%).
- Average diagnostic quality images 98%.
- Average screening time 44.53 seconds.
- Average dose 12.754 cGycm2.

- 62 patients were finally audited.

DISCUSSION

As we had hoped our dose range fell within the dose range recommended by the Health Protection Agency. There has been a considerable improvement in dose reduction as compared to the previous audit. The average dose has decreased from 19.6 to 12.7 cGycm2. There were problems with cannulation in the study with the highest dose. Also the usage of contrast was expected, but not clearly documented, thereby resulting in higher dose and increased screening time. This was stated on the examination report.

Our screening times varied widely from a few seconds to a maximum of 226 seconds. There has also been a significant improvement in referral times, with the average reducing from 19.6 seconds to 44.53 seconds this year, just missing the national standard by 2.5 seconds.

All 62 examinations were screened by a radiographer. Majority of reports mentioned the name of the operator. For the remaining, scanned documents were searched to find this information.

Out of the 62 patients, 2 had failed cervical cannulation despite several attempts.

All the patients with successful cannulation had diagnostic images.

As we had hoped our dose range fell within the dose range recommended by the Health Protection Agency. There has been a considerable improvement in dose reduction as compared to the previous audit. The average dose has decreased from 19.6 to 12.7 cGycm2. There were problems with cannulation in the study with the highest dose. Also the usage of contrast was expected, but not clearly documented, thereby resulting in higher dose and increased screening time. This was stated on the examination report.

Our screening times varied widely from a few seconds to a maximum of 226 seconds. There has also been a significant improvement in referral times, with the average reducing from 19.6 seconds to 44.53 seconds this year, just missing the national standard by 2.5 seconds.

All 62 examinations were screened by a radiographer. Majority of reports mentioned the name of the operator. For the remaining, scanned documents were searched to find this information.

Out of the 62 patients, 2 had failed cervical cannulation despite several attempts.

All the patients with successful cannulation had diagnostic images.

REFERENCES

- Doses to Patients from Radiographic and Fluoroscopic X-ray Imaging Procedures in the UK- 2010 Review. D Hart, M C Millar and P C Shrimpton. HPA-CRCE-034
- Present in departmental audit meeting to disseminate findings so that individuals regularly involved in screening are aware of the national guidance with regards to dose and screening time.
- Discuss with the radiographers regularly involved in screening to ascertain if there is anything they are aware of that is increasing our screening times.
- Disposal with specialist nurses performing cervical cannulation regarding cannulation success rates to ensure optimum conditions and equipment available to enable optimisation of success rates.
- Re audit in one year’s time to ensure standards are being met.

ACKNOWLEDGEMENT

Many thanks to Dr Nicola Spence for her contribution to the first audit and Mr Alan Riddoch for the provision of RIS data.


Parameter assessed Result Standard Met?

<table>
<thead>
<tr>
<th>Parameter assessed</th>
<th>2016</th>
<th>2017</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of patients</td>
<td>62</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Dose range</td>
<td>0 to 78.4 cGym2</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Screening Time</td>
<td>Mean 64.53 seconds</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Cervical Cannulation Success</td>
<td>97%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Diagnostic Quality Images</td>
<td>98%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>