Is Outpatient Hysteroscopy the New Gold Standard?

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Background

• Abnormal Uterine Bleeding (AUB) common gynaecological presentation
• Hysteroscopy D&C under GA considered the “Gold Standard”
• Outpatient hysteroscopy safe, convenient, cost effective means of diagnosing and treating abnormal uterine bleeding
Background

- Weekly outpatient hysteroscopy clinic operating since 2000
- Endosurgery consultant, fellow, nurse
- Six cases per clinic
- Prospective audit of all women attending for outpatient hysteroscopy since 2003
- Data collected pre and post procedure – clinical data; pain data
Eligibility Criteria

• <65 years of age
• Able to tolerate speculum examination
• No significant cardiac history
• Weight <120 kg
• No cervical stenosis
Procedure

- Day cases in outpatient area
- Premedication with diclofenac or paracetamol
- Traditional Technique Employed until June 2008:
  - Insert bivalve speculum
  - 0.1% lignocaine spray to anterior lip of cervix
  - Grasp anterior cervical lip with tenaculum
  - Insert 3mm Olympus rigid hysteroscope
  - 4mm sheath – Olympus
  - CO2 scope until 2005, then saline
  - Endometrial sample – Rocket endometrial sampler
Traditional Technique
Procedure

• Vaginoscopic Technique:
  – Distension of vaginal cavity with saline (30 – 40mmHg)
  – Gentle hand movements
  – Weight of the saline provides sufficient vaginal distension to visualise the portio
  – Entire cavity viewed by rotating the hysteroscope on its axis without any lateral movement
  – Endometrial sample with H-pipelle

Vaginoscopic Technique
Procedure

• Variations:
  – Intracervical block, paracervical block, intrauterine block if required
  – Buccal misoprostil 400mcg
  – May use dilators (up to Hegar 4)
Study Objective

• Assess the safety, effectiveness & acceptability of outpatient hysteroscopy in a tertiary Australian hospital setting

• Calculate Resource savings
Materials and Methods

• Analysis of prospective database from March 2003 – January 2014
  – 130 months, 990 women
# Patient Information

<table>
<thead>
<tr>
<th>Indication For Referral for OP Hysteroscopy</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dysfunctional Uterine Bleeding</td>
<td>624 (63)</td>
</tr>
<tr>
<td>Postmenopausal Bleeding</td>
<td>218 (22)</td>
</tr>
<tr>
<td>Other (polyp, IUD, infertility)</td>
<td>79 (8)</td>
</tr>
<tr>
<td>Postmenopausal increased ET</td>
<td>40 (4)</td>
</tr>
<tr>
<td>Undocumented</td>
<td>29 (3)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>990 (100%)</strong></td>
</tr>
</tbody>
</table>
Patient Information

Menopausal Status N=990

- 26% Post menopausal
- 2% Undocumented
- 72% Pre menopausal
Results

Procedure Outcome n=990

- 6% Failed Access / View
- 94% Successful Access & View

94% Success Rate
Results

Post procedure acceptability

Acceptable: 88%
Unacceptable: 12%
Results

Success

<table>
<thead>
<tr>
<th>Pain</th>
<th>Successful Access (n = 930)</th>
<th>Unsuccessful Access (n = 60)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre procedure pain</td>
<td>0.87</td>
<td>1.5</td>
<td>0.034</td>
</tr>
<tr>
<td>Expected Pain</td>
<td>3.6</td>
<td>3.7</td>
<td>0.37</td>
</tr>
<tr>
<td>Experienced Pain</td>
<td>3.7</td>
<td>4.2</td>
<td>0.13</td>
</tr>
<tr>
<td>Difference between Experienced &amp; Expected Pain</td>
<td>0.1</td>
<td>0.5</td>
<td>0.44</td>
</tr>
</tbody>
</table>
# Results

## Acceptability

<table>
<thead>
<tr>
<th>Pain</th>
<th>Acceptable (n = 837)</th>
<th>Unacceptable (n = 110)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre procedure pain</td>
<td>0.89</td>
<td>1.2</td>
<td>0.11</td>
</tr>
<tr>
<td>Expected Pain</td>
<td>3.5</td>
<td>3.8</td>
<td>0.24</td>
</tr>
<tr>
<td>Experienced Pain</td>
<td>3.6</td>
<td>5.9</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Difference between Experienced &amp; Expected Pain</td>
<td>0.1</td>
<td>2.1</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>
## Results

### Menopausal Status

<table>
<thead>
<tr>
<th></th>
<th>Premenopausal (n = 721)</th>
<th>Postmenopausal (n = 262)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experienced Pain</td>
<td>3.7</td>
<td>3.7</td>
<td>0.99</td>
</tr>
<tr>
<td>Successful Hysteroscopy</td>
<td>96%</td>
<td>89%</td>
<td>0.0004</td>
</tr>
<tr>
<td>Vasovagal reaction</td>
<td>4.4%</td>
<td>7.7%</td>
<td>0.066</td>
</tr>
<tr>
<td>Acceptability</td>
<td>91%</td>
<td>87%</td>
<td>0.08</td>
</tr>
</tbody>
</table>
## Results

### Parity

<table>
<thead>
<tr>
<th></th>
<th>Multiparous (n = 774)</th>
<th>Nulliparous (n = 213)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experienced Pain</td>
<td>3.6</td>
<td>3.9</td>
<td>0.0047</td>
</tr>
<tr>
<td>Successful Hysteroscopy</td>
<td>95%</td>
<td>89%</td>
<td>0.0017</td>
</tr>
<tr>
<td>Vasovagal reaction</td>
<td>4.3%</td>
<td>7.5%</td>
<td>0.073</td>
</tr>
<tr>
<td>Acceptability</td>
<td>90%</td>
<td>82%</td>
<td>0.0016</td>
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</tbody>
</table>
## Results

### Technique

<table>
<thead>
<tr>
<th></th>
<th>Traditional (n = 442)</th>
<th>Vaginoscopy (n = 473)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experienced Pain</td>
<td>3.7</td>
<td>3.8</td>
<td>0.36</td>
</tr>
<tr>
<td>Successful Hysteroscopy</td>
<td>92%</td>
<td>95%</td>
<td>0.09</td>
</tr>
<tr>
<td>Vasovagal reaction</td>
<td>6.8%</td>
<td>4%</td>
<td>0.09</td>
</tr>
<tr>
<td>Acceptability</td>
<td>88%</td>
<td>93%</td>
<td>0.01</td>
</tr>
</tbody>
</table>
Results

Hysteroscopy Findings n=930

- 79% Normal
- 14% Endometrial Polyp
- 4% Submucosal Fibroid
- 3% Abnormal Appearance
Results

Pipelle samples N=720

89% Adequate Specimen

11% Inadequate Specimen
Results

- 82 Inadequate samples (11%)
  - 64 had normal hysteroscopic findings - no further action required (78%)
  - 7 had submucosal fibroids at hysteroscopy
  - 4 had endometrial polyps at hysteroscopy
  - 4 had an abnormal appearance at hysteroscopy
  - 3 had risk factors requiring tissue sampling (Tamoxifen/surveillance for hyperplasia)
  - 3 (0.6%) additional Hysteroscopy D&C
Results

• 638 Adequate samples (89%)
  – 7 Endometrial Hyperplasia
    • 2 simple no atypia
    • 3 complex no atypia
    • 2 complex with atypia
  – 3 Endometrioid Adenocarcinoma
  – 1 case of simple hyperplasia had a normal hysteroscopic appearance
  – No additional Hysteroscopy D&C
Patient Flow

990 patient referrals

930 successful (94%)

734 normal hysteroscopy +/- normal pipelle (75%)

192 abnormal hysteroscopy (abnormal appearance, fibroid, polyp) (19%)

1 patient normal hysteroscopy + simple hyperplasia no atypia

3 risk factors for endometrial abnormality with normal hysteroscopy but inadequate pipelle (0.06%)

735 patients did not require GA HDC (74%)
255 patients required GA HDC (26%)
Results

• Cost savings
  – $1,000 per case not performed in theatre
    i.e. 50% saving
  – $735,000 saved over the study period
  – $180,000 annual saving from 2014
  – 33 hours of theatre time saved per year of the study
  – 45 hours of operating time (11 theatre lists) saved annually from 2014
Conclusions

• Outpatient hysteroscopy safe, effective, acceptable
  – 94% success rate
  – 88% acceptability
  – 5% vasovagal
  – 0.1% perforation

• Factors affecting success:
  – Pre-procedure pain
  – Menopausal status
  – Parity
Conclusions

• Factors affecting acceptability:
  – Difference between pain expected + pain experienced

• Postmenopausal status + nulliparity still have high success + acceptability rates

• Cost savings >$1,000 per case + theatre time
Future Directions

• Myosure Cases
  – Since May 2016
  – 12 cases to date
  – 10 endometrial polyps
  – 2 small fibroids
Complete Diagnostic Hysteroscope

Two main components

1. Reusable hand set that includes;
   - 3.5” monitor
   - On/Off switch
   - LED brightness control
   - Camera button for stills and video
   - Battery for power
   - Memory to store images/video

2. Disposable, single use, sterile cannula
   - Red dot
   - In-flow port for saline
   - Flexible cannula
   - 25° angle at distal end
   - Brand new camera every time
   - New LED light source

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Published Guidelines

- RCOG Green-top Guideline No 59. Best Practice in Outpatient Hysteroscopy.