Inguinal Hernia: OBSERVATION

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Outline

- Inguinal Hernias
- Symptoms
- Observation
- Why waiting is safe
- Summary

Fig. 1. Contemporary presentation of an inguinal hernia operation, performed by Caspar Stromayr (approximately 1530–1580), who was a German bather-surgeon. The base of the hernial sac is purse-string-ligated with a curved needle [3].
Overview

• 20 million groin hernias repaired worldwide
• 10–15% of all general surgical procedures
• Bulge in groin
• Pain on cough, exercise, and rest
• Risk of incarceration and/or strangulation
• Repair risks
  – Chronic pain post op (13-37%)
  – Recurrence
Inguinal Hernia

- **Direct**
  - Weak point in the fascia
  - Hesselbach’s triangle

- **Indirect**
  - through the inguinal ring
  - failure of embryonic closure of the inguinal ring
Inguinal Hernia
Is the hernia symptomatic?

- Most common:
  - Pain
  - Limitations of activities
Is surgical repair of an asymptomatic groin hernia appropriate? A review

B. van den Heuvel · B. J. Dwars · D. R. Klassen · H. J. Bonjer

• Review of the Literature
• Goal: To evaluate appropriateness of surgery in asymptomatic hernia
• Main reason for repair: Risk of incarceration
• Results
  – Risk of incarceration 4/1000
  – Recurrence of tension free vs emergent is the same
  – No real difference in pain
  – No advantage in cost effectiveness
Conclusion  Watchful waiting for asymptomatic groin hernias is a safe and cost-effective modality in patients who are under 50 years old, have an ASA class of 1 or 2, an inguinal hernia, and a duration of signs of more than 3 months.
Is waiting safe??

• This is the spot where Dr. James will put a cute picture of his new baby to draw attention away from the debate...
Observation or Operation for Patients With an Asymptomatic Inguinal Hernia
A Randomized Clinical Trial

Patrick J. O’Dwyer, FRCS,† John Norrie, MSc,* Ahmed Alani, FRCS,‡ Andrew Walker, PhD,*

232 Eligible Patients
58 refused an operation
14 requested an operation
160 patients randomized

Randomization

80 in operation group
*75 had operation

79 in 6 month follow-up
Data available for all patients

79 in 1 year follow-up
Data available for all patients

80 in observation group

78 in 6 month follow-up
Data available for all patients

77 in 1 year follow-up
Data available for 75 patients
2 lost to follow-up

3 patients had died from non-hernia related causes by 6 months while an additional patient had died at one year.

*1 died while awaiting operation, 1 was cancelled because of myocardial infarct while 3 refused operation.
### TABLE 2. Pain Scores at Rest and at Movement at Baseline, 6 Months, and 12 Months

<table>
<thead>
<tr>
<th>Pain Measure</th>
<th>Observation</th>
<th>Operation</th>
<th>Mean Difference [Operation – Observation (95% CI)]</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Mean (SD)</td>
<td>Model</td>
<td></td>
</tr>
<tr>
<td>At rest</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>80</td>
<td>2.0 (3.0)</td>
<td>80 2.0 (2.9)</td>
<td></td>
</tr>
<tr>
<td>6 mo</td>
<td>78</td>
<td>8.0 (14.0)</td>
<td>79 4.8 (10.7)</td>
<td>0.11</td>
</tr>
<tr>
<td>12 mo</td>
<td>75</td>
<td>3.7 (8.2)</td>
<td>79 5.2 (12.3)</td>
<td>0.062</td>
</tr>
<tr>
<td>At movement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>80</td>
<td>2.3 (3.0)</td>
<td>80 2.4 (3.1)</td>
<td></td>
</tr>
<tr>
<td>6 mo</td>
<td>78</td>
<td>10.9 (16.0)</td>
<td>79 6.1 (11.9)</td>
<td>0.036</td>
</tr>
<tr>
<td>12 mo</td>
<td>75</td>
<td>7.6 (15.0)</td>
<td>79 5.7 (11.5)</td>
<td>0.018</td>
</tr>
</tbody>
</table>

Models: A, adjusting for relevant baseline pain measurement; B, additional adjustment for analgesia and other baseline covariates.
Watchful Waiting vs Repair of Inguinal Hernia in Minimally Symptomatic Men
A Randomized Clinical Trial

• Study: 720 men (364 watchful waiting, 356 surgical repair)
  – VA population
  – mean age 58

• Methods: Asymptomatic or minimally symptomatic hernia

• Results: intention-to-treat outcomes were similar at 2 years

• 23 % percent of patients assigned to WW crossed over

• 17% assigned to receive repair crossed over to WW

• 1 (one) WW patient (0.3%) experienced acute hernia incarceration without strangulation within 2 years

JAMA, January 18, 2006—Vol 295, No. 3
• Pain limiting activities
  – 2% in OR group
  – 5% in WW group
• Both with less pain at 2 yrs on VAS

Conclusions  Watchful waiting is an acceptable option for men with minimally symptomatic inguinal hernias. Delaying surgical repair until symptoms increase is safe because acute hernia incarcerations occur rarely.
How do we know who will fail WW?
A Clinician’s Guide to Patient Selection for Watchful Waiting Management of Inguinal Hernia

George A. Sarosi, Jr, MD*, Yongliang Wei, MS†, James O. Gibbs, PhD‡, Domenic J. Reda, PhD†, Martin McCarthy, Jr, PhD§, Robert J. Fitzgibbons, Jr, MD¶, and Jeffrey S. T. Barkun, MD**

• Objective: Assist in managing asymptomatic hernias
• 336 patients randomized to Watchful Waiting were reviewed
• Two Outcomes
  – Crossover to surgery
  – Development of hernia pain limiting activities +/- crossover
• Results at 2 yrs
  – 72 crossover to surgery
  – Additional 28 developed pain limiting activities
How much pain or discomfort have you had due to your hernia in the last 24 hours? Mark on the line with an X to indicate How much pain did you have when you were exercising, having sex, doing strenuous work, or lifting objects you used to lift comfortably?:

[Blank line]

No Pain Sensation  Most Intense Pain imaginable

2. Does the patient have chronic constipation? □ Yes or □ No
3. Does the patient report prostatism? □ Yes or □ No
4. Is the patient married? □ Yes or □ No
Is it cost effective to fix all hernias?
Assessed costs, quality-adjusted life years (QALY) and cost-effectiveness at 2-years

Results
- Surgical repair higher than watchful waiting ($7,875 vs. $6,044)
- Difference of US $1,831

The incremental cost-effectiveness ratio
- which refers to the cost per additional QALY
- US $59,065/QALY

A cost per QALY of approximately US $50,000 is generally viewed as a reasonable
Summary

- Watchful Waiting is a reasonable option
- Similar pain scores at 2 yr follow-up
- Safe – minimal risk of incarceration
- Cost-effective
- UNLESS:
  - You are married and constipated....