

The Effect of Pelvic MRI on the Diagnoses and Treatment of Women with Presumed Symptomatic Uterine Fibroids

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Rationale

- UFE accepted treatment option
- Ultrasound traditional imaging modality
- Pelvic MRI
 - Increasingly used by IRs
 - Much more accurate
- Effect is unknown

Purpose

To assess effect of pelvic MRI on IRs:

1. Diagnoses
2. Treatment plans

**Fryback and Thornbury
Model of Imaging Efficacy
(1991)**

1. Technical
2. Diagnostic accuracy
3. Diagnostic thinking
4. Therapeutic
5. Patient outcome
6. Societal

Methods

- 60 women with suspected symptomatic fibroids
- IRB-approved protocol
- Multi-planar pelvic MRI
 - T2-w HASTE and TSE
 - T1-w GRE +/- fat sat and Gd
- IRs prospectively completed Pre- and Post- MRI questionnaires

Methods: Questionnaires

- Single most likely diagnosis
- Diagnostic confidence (0-100%) of this most likely diagnosis
- Treatment plan
 - Pre: Intended, if MRI unavailable
 - Post: Actual, given MRI results

Methods: Diagnostic Options

- Uterine fibroids
- Adenomyosis
- Masses– endometrial, adnexal, or cervical
- Other (specify)
- Normal
- Multi-factorial (>1 of above)

Methods: Treatment Options

1. Manage patient clinically
2. Biopsy
3. UFE
4. Surgery

Methods: Data Analysis

- Mean gains in diagnostic confidence
 - Paired t test
- Proportion of patients with changed
 1. Initial diagnoses
 2. Anticipated treatment plans

Results

- 60 sets of questionnaires completed
- Mean diagnostic confidence:
Pre-MRI 76%
Post-MRI 98%
Gain 22% p <0.0001

Results: Diagnoses

- MRI changed initial diagnoses in 11/60 women (18%)
- Fibroids
 - Before MRI: 59/60 (98%)
 - After MRI: 49/59 (83%)

Results: Treatment

- MRI changed initial treatment in 13/60 patients (22%)
- Prior to MRI, 57/60 (95%) UFE selected
- After MRI, 11/57 (19%) UFE no longer selected
 - Surgery (8), clinical (2), biopsy (1)

Why is pelvic MRI helpful?

- **Detects unsuspected pelvic masses**
- **Defines adenomyosis**
- **Detects degenerated fibroids**
- **Documents absence of uterine pathology**
- **Improves patient consultation**

Limitations

- **Did not directly compare to US**
- **Did not assess patient outcome or cost effectiveness**
- **Treatment of adenomyosis controversial**
- **Physicians: IR, not OB/Gyne**

Conclusions

- **MRI has considerable impact on IRs**
- **Pre- and post-imaging questionnaire format useful for measuring impact**
- **Stratifies Ddx à appropriate treatment**
- **Recommend routine use**
