Hysteroscopic Diagnosis of Endometrial Cancer

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Hysteroscopic Diagnosis of Endometrial Cancer

Endometrial cancer is missed by D&C in about 10% of cases

Stovall TG, Obstet Gynecol 1998

Mainly in early carcinomas showing focal growth!
Hysteroscopic Diagnosis of Endometrial Cancer

“Although from the body of current literature hysteroscopy with endometrial biopsy appears the gold standard to diagnose endometrial malignancy, no Randomized Controlled Trial demonstrated an improvement over blind techniques”

What’s the Role of Hysteroscopist in Diagnostic Work-up?

• To suggest and support a visual diagnosis
• To confirm the diagnosis through an appropriate tissue sampling
• To estimate the endometrial spread
• To estimate the spread to endocervical lining
• To reduce the risk of transtubal seeding of endometrial cancer cells
Hysteroscopic Diagnosis of Endometrial Cancer

Hysteroscopic view

**Basic Features**

Unevenly thickened endometrium

Overtly abnormal endometrial growth

Atypical vascularization

Anatomic distortion of uterine cavity

Focal necrosis

**Patterns of Growth**

Nodular

Papillary

Polypoid

Mixed features

*Sugimoto O, Am J Obstet Gynecol, 1975*
Hysteroscopic Diagnosis of Endometrial Cancer

Hysteroscopic View

Nodular Carcinoma

Bulges of firm consistency, covered with a corrugated and uneven mucosa
Hysteroscopic Diagnosis of Endometrial Cancer

Hysteroscopic View

Papillary Carcinoma

Tentacle-like appearance, velvety consistence, papillae typically fluttering under the flow of liquid distending medium
Hysteroscopic Diagnosis of Endometrial Cancer

Hysteroscopic View

Papillary Carcinoma

CO2

Saline
Hysteroscopic Diagnosis of Endometrial Cancer

Hysteroscopic View

Polypoid Carcinoma

Smooth surface of growing projections, brain-like appearance and friable consistency
Hysteroscopic Diagnosis of Endometrial Carcinoma

Hysteroscopic View

Mixed Features

Polypoid and Papillary Growth
# Sensitivity of Hysteroscopic View

true positive / true positive + false negative

<table>
<thead>
<tr>
<th>pts</th>
<th>sensitivity</th>
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<tbody>
<tr>
<td>Clark TJ, JAMA 2002 (overview, 1984-2001)</td>
<td>26346</td>
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<tr>
<td>Deckardt R, J Am Assoc Gynecol Laparosc 2002</td>
<td>29</td>
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<td>Elliott J, Acta Obstet Gynecol Scand 2003</td>
<td>14</td>
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<td>Birinyi L, Eur J Obstet Gynecol &amp; Reprod Biol 2004</td>
<td>21</td>
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<tr>
<td>Litta P, Maturitas 2005</td>
<td>13</td>
</tr>
<tr>
<td>Lasmar RB, J Min Inv Gynecol 2006</td>
<td>105</td>
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<td>Schmidt T, Maturitas 2009</td>
<td>12</td>
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<tr>
<td>Garuti G, Am Assoc Gynecol Laparosc, 2001</td>
<td>102</td>
</tr>
</tbody>
</table>
Hysteroscopic Diagnosis of Endometrial Carcinoma

Sensitivity of Hysteroscopic View


In 17 out of 102 patients with endometrial cancer hysteroscopic-view underestimated the diagnosis:

<table>
<thead>
<tr>
<th>Pathology</th>
<th>Atrophic endometrium</th>
<th>Endometrial polyp</th>
<th>Endometrial hyperplasias</th>
<th>Endometrial carcinoma</th>
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<tr>
<td>Endometrial carcinoma</td>
<td>1</td>
<td>4</td>
<td>12</td>
<td>85</td>
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</table>

Sensitivity for endometrial cancer detection: 85.7%
Hysteroscopic Diagnosis of Endometrial Carcinoma
Sensitivity of Hysteroscopic view, False Negative Findings

Hysteroscopy: Endometrial polyp
Pathology: Endometrial carcinoma within polyp

Hysteroscopy: Endometrial hyperplasia
Pathology: Endometrial carcinoma

Hysteroscopy: Cystic atrophy
Pathology: Atypical hyperplasia

ALL FOCALITIES MUST BE SAMPLED!!
Hysteroscopic Diagnosis of Endometrial Carcinoma

Hysteroscopic view, the Only True Negative Finding

- Evenly lined endometrium
- Good visualization
- No architectural distortion of uterine cavity

Loffer FD, Obstet Gynecol, 1989
Hysteroscopic Diagnosis of Endometrial Carcinoma

What Biopsy to Accomplish when Hysteroscopic view Suggests an Endometrial Cancer?

- Formal Dilatation and Curettage
- Sharp “oriented” biopsy (Novak, Kevorkian)
- Suction devices (Pipelle, Vabra)
- Hysteroscopically targeted
Hysteroscopic Diagnosis of Endometrial Carcinoma

What Biopsy?

- All methods are highly sensitive
- No literature data support the superiority of a method over another

**OUR CUSTOM AND SUGGESTIONS**

Hysteroscopically targeted biopsy of focal lesions (less than 50% endometrial lining involvement) is recommended.

Hysteroscopically targeted biopsy and/or suction curettage biopsy (Vabra) and/or sampling with sharp curette (Novak or Kevorkian) in extended lesions (more than 50% endometrial lining involvement).

Blind sampling with suction curettage or with oriented sharp-curette biopsy in all cases in which hysteroscopic directed biopsy was judged too scant or poorly representative of entire endometrial lesion.
Hysteroscopic Diagnosis of Endometrial Carcinoma
Hysteroscopically Targeted Biopsy

Technical Observations

- Easy bleeding obscuring vision
- Friable tissue limiting the accomplishment of biopsy fashioning and retrieval
- Sampling of gland - stromal junction
- Interpretation of a pathologic report of endometrial atypical hyperplasia
In the office setting, the accomplishment of a blind biopsy after hysteroscopic inspection represents the most painful step. The hysteroscopist is the physician firstly responsible for a failed diagnosis of endometrial malignancy. When the pathologic report is not consistent with the visual impression of an endometrial malignancy, the hysteroscopist does not hesitate to indicate a re-examination under sedation or general anaesthesia.
Hysteroscopic Diagnosis of Endometrial Carcinoma

Endometrial Lining Extension of Cancer Growth, an Independent Prognostic Factor?

Rationale

Hysteroscopy can easily provide information about the extent of endometrial spread.

The extent of endometrial spread can be rationally related with the tumour volume.

In medical oncology, the volume of solid tumours is uniformly accepted as one of the most powerful prognostic determinants.

The tumour volume directly relates with the probability of extrauterine spread.

Schink JC, Obstet Gynecol 1987
Schink JC, Cancer 1991

Tumour size is not included in the current surgical-pathological FIGO classification.
Hysteroscopic Diagnosis of Endometrial Carcinoma

Endometrial Lining Extension of Cancer Growth, an Independent Prognostic Factor?

Focal growth, less than 50% endometrial lining involvement
40 months overall survival 100%

Extensive growth, more than 50% endometrial lining involvement
40 months overall survival 73%

Hysteroscopic Diagnosis of Endometrial Carcinoma

Endocervical Spread

Hysteroscopy is a high sensitive tool in excluding an endocervical spread

<table>
<thead>
<tr>
<th>Study</th>
<th>Sensitivity</th>
<th>Specificity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lo KWK, Gynecol Oncol 2001</td>
<td>68.3%</td>
<td>98.7%</td>
</tr>
<tr>
<td>Garuti G, Gynecol Oncol 2001</td>
<td>100.0%</td>
<td>87.3%</td>
</tr>
<tr>
<td>Avila ML, Int J Gynecol Cancer 2007</td>
<td>79.4%</td>
<td>88.0%</td>
</tr>
<tr>
<td>Cicinelli E, Gynecol Oncol 2008</td>
<td>93.0%</td>
<td>88.0%</td>
</tr>
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</table>
Hysteroscopic Diagnosis of Endometrial Carcinoma
Retrograde Transtubal Spreading of Tumour Cells

Viable tumour endometrial cells can spread to pelvic peritoneum
Arikan G, Gynecol Oncol 2004

Retrograde spreading appears more frequent with the use of saline than CO2 as distension medium
Lo KW, Gynecol Oncol, 2002; Nagele F, Hum Reprod, 1999

Positive peritoneal citology is more frequent after hysteroscopy (10%-12%) than after D&C (5%-6%)
Brewenga P, Gynecol Oncol 2004; Yazbeck C, Gynecol Obstet Fertil 2005; DeLaCuesta RS, EJOGRB, 2004
Hysteroscopic Diagnosis of Endometrial Carcinoma

Retrograde Transtubal Spreading of Tumour Cells

Retrospective Studies

Obermair A, Int J Gynecol Cancer, 2000 (262 pazienti)
- Dopo isteroscopia: 60 mths DFS 92.4%
- Dopo D&C: 60 mths DFS 84.7%

DeLaCuesta RS, EJOGRB, 2004 (62 pazienti)
- Dopo isteroscopia: 34 mths DFS 100%
- Dopo D&C: 34 mths DFS 100%
Hysteroscopic Diagnosis of Endometrial Carcinoma
Retrograde Transtubal Spreading of Tumour Cells

Retrospective Studies


Conclusions

“After a median follow-up of 25 months for patients undergoing hysteroscopy, there was no difference in recurrence rates and/or overall survival compared to other diagnostic procedures (endometrial biopsy and D&C), implying that hysteroscopy can be safely used in the diagnosis of endometrial cancer.”
The Risk of Diagnostic Hysteroscopy to Up-Stage the Tumour is Still an Unresolved Question

- Transtubal seeding?: No Randomized Studies
- Haematogenous spread?: No Study

Diagnose a Cancer with Careful Hysteroscopic Technique!

- Quick diagnostic times
- Low working pressures
- Low trauma to vascular network