

Variation of Clinical Judgment in Cases of Hysterectomy in R.O.C, Japan, England, and the United States.

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Background

Hysterectomy is the most common non-pregnancy-related major surgery performed on women in the United States. Close to 600,000 women in the United States undergo the procedure each year, with annual costs exceeding \$5 billion. By age 60, more than one-third of women in the United States have had a hysterectomy.

Many believe that the high U.S. hysterectomy rate is a result of an expansion of the accepted indications for hysterectomy. More reasons are listed for removal of the uterus than for any other organ, with indications ranging from life-threatening cancer of the genital tract to menstrual pain. In the United States, hysterectomy is widely accepted by medical professionals and by the public as an appropriate treatment for uterine cancer and for various common non-cancerous uterine conditions that produce disabling levels of pain, discomfort, uterine bleeding, emotional distress, and related symptoms.

With so many possible indications for hysterectomy, the decision as to when to perform the procedure may be a great contributing factor in the different rates of hysterectomy between countries. This study poses the question, "Does individual physician decision-making affect hysterectomy rates in different countries?"

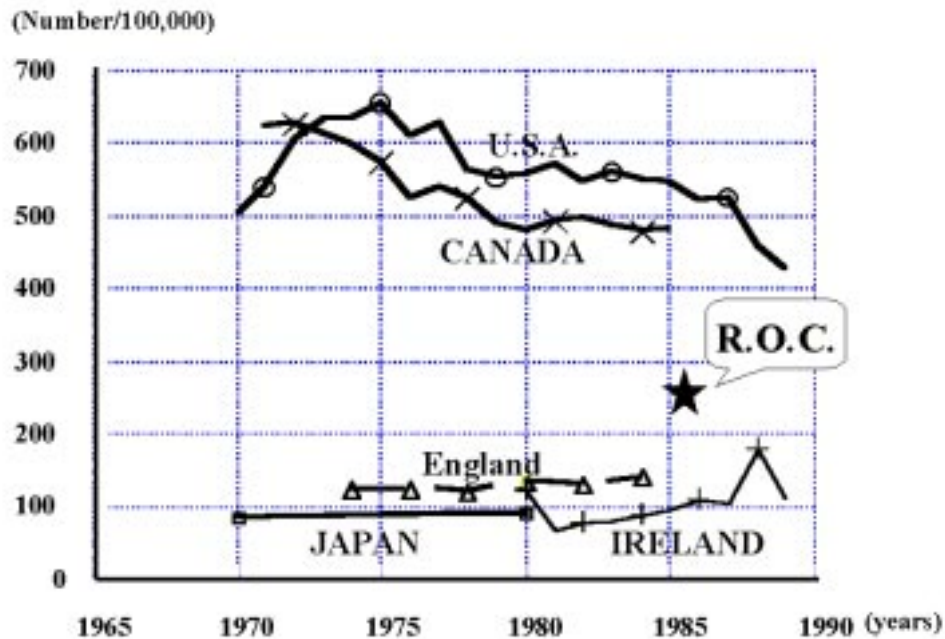


Fig.1 : Number of Hysterectomies per 100,000 Female Population (Japan, England, and the U.S. from OECD Health Data File, 1995)

Procedure

This study is based on a survey that presented six fictional case histories to physicians (See Appendix). The cases were related to some typical indications for hysterectomy, and the doctors were asked whether they would perform hysterectomy for each case, and if so, whether they would perform it within one month. The questionnaire also included space for personal comments and demographic data (age, sex, length of experience, etc.). The surveys were conducted in England and the United States in 1990, Japan in 1996, and the Republic of China (R.O.C) in 1997.

The following is a short description of each patient case history:

1. A 40-year-old woman who complained of chronic pain lasting 3-4 days during menstruation. She wanted a hysterectomy to cure this dysmenorrhoea. Clearly, this was not a life-threatening case; the main indication for hysterectomy here was discomfort.
2. A 74-year-old woman with adenocarcinoma of the endometrium. She had no reservations about having a hysterectomy. This case was designed to be the control case: We expected 100 percent of the physicians surveyed to decide in favor of hysterectomy.
3. A 39-year-old woman with potential cancer who wished to be sterilized.

4. A 36-year-old woman with menorrhagia who wanted a hysterectomy mainly as a result of severe monthly discomfort.
5. A 51-year-old woman who complained of minor pelvic pain that was contributing to tiredness at work. She had reservations about a hysterectomy and wondered whether one might make her more comfortable.
6. A woman with premalignant cancer whose mother had also had cancer.

We began this research in 1990 by mailing these surveys to 300 gynecologists in the United States and 300 gynecologists in England. The English gynecologists were randomly selected from a list of geographically ordered fellows from the Royal College of Gynecologists. The U.S. pool was also random and geographically distributed. The surveys were anonymous and were administered through the mail. The United States and England were selected because of the dramatic difference in hysterectomy rates between the two countries: Physicians in the United States perform twice as many hysterectomies per capita as do those in England.

Clinical judgments of doctors in the United States and England were found to be similar, despite the fact that the real performance rate of hysterectomy is dramatically different. In fact, according to our survey, there was no statistical difference in clinical judgment.

To further examine the issue of whether the clinical judgment of doctors affects the performance rate of hysterectomy, we extended this study to Japan – a country with a hysterectomy rate as low as England's. (See Figure 1 for hysterectomy rates in different countries.) A translated version of the original survey was mailed to 3000 gynecologists in Japan in 1996. These gynecologists were randomly selected from among the 15,000 names listed in the directory of the Japanese Association of Gynecology.

The responses from Japan were statistically different from those obtained in the United States and England. To investigate whether cultural differences were a factor in these results, we next distributed the survey in the Republic of China, a country with Eastern medical influences similar to those that exist in Japan. A translated version of the survey was mailed to members of the Association of Obstetrics and Gynecology, R.O.C., in 1997.

Surveys in the R.O.C were distributed with the assistance of the Association of Obstetrics and Gynecology, R.O.C. The association mailed the surveys with an address label attached directly to the survey, without an envelope. Surveys were returned in a similar manner. While the physicians had the option to remove the address label before returning the survey, the majority of them did not. Thus, the surveys in Taiwan were not anonymous like those in the United States, England and Japan.

There is a noticeable time gap between the year that the surveys were distributed in the United States and England (1990) and when they were distributed in Japan (1996) and Taiwan (1997). This is because Japanese institutional structure makes it difficult to conduct this type of medical survey; it took some time to make the proper arrangements for conducting the research. It was, in fact, the first study of its kind undertaken in Japan.

Since 1990, there has been a transformation in the American health-care system. The United States has shifted from traditional fee-for-service health care to a managed-care system. This may lead some people to believe that we would obtain different survey results if we administered the survey again under the new system. However, taking into account the fact that we obtained similar survey results from England and the United States despite the differences between the two countries' systems, we likewise do not believe that this change in the American health-care system would greatly affect the survey responses of American physicians.

Sample and Demographics

Response Rate

Of the 2,258 questionnaires sent to Taiwanese physicians, we received 455 (20.2%) responses. However, 9 (0.4%) of these were not usable because they were incomplete; the effective response rate was 19.8%. The effective response rates for the other countries are: England (70.7%) U.S. (69.7%), and Japan (21.1%) .

Table 1
Response Rate

	% (N)			
	R.O.C.	Japan	United States	England
Completed Questionnaires	19.8 (446)	21.1 (634)	69.7 (209)	70.7 (212)
Uncompleted Questionnaires	0.4 (9)	1.3 (40)	1.7 (5)	3.7 (11)
Returned by Post Office	0.1 (2)	5.0 (150)	0 (0)	0 (0)
Non-response	79.8 (1801)	72.5 (2176)	28.7 (86)	25.7 (77)
Questionnaires sent	100.0 (2258)	100.0 (3000)	100.0 (300)	100.0 (300)

Sex Distribution

In all four countries, the majority of physicians who completed the questionnaire were male. The Asian countries had slightly higher proportions of male respondents than did the Western countries.

Table 2
Sex Distribution of Physicians

	R.O.C.	Japan	U.S.	England
Male	91.7 (409)	91.8 (582)	84.7 (177)	86.3 (183)
Female	8.3 (37)	8.2 (52)	15.3 (32)	13.7 (29)

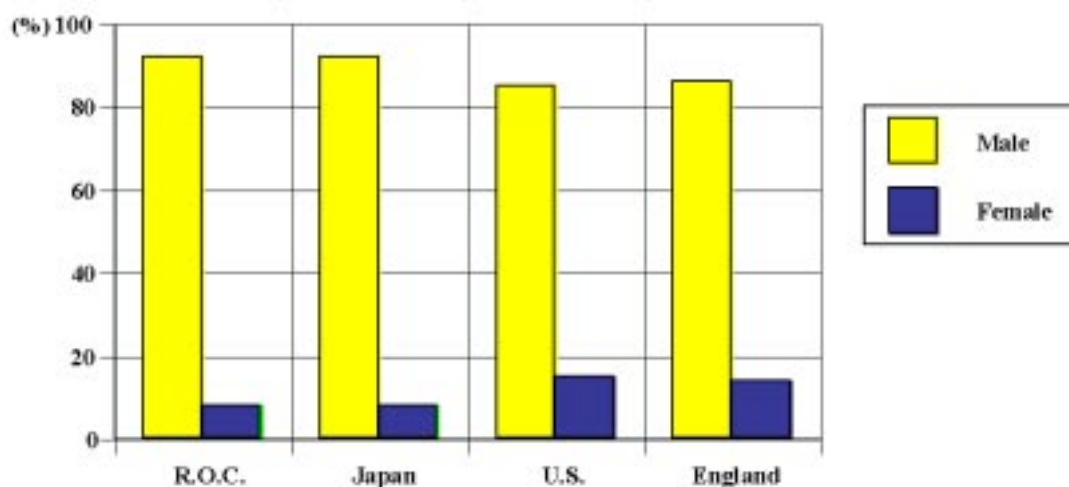


Fig. 2: Sex Distribution of Physicians

Age Distribution

In general, the Taiwanese and American physicians tended to be younger than those in Japan and England. The Taiwanese physicians were the youngest, while the Japanese physicians were the oldest. Physicians over 60 years old represented only 8.8% of the total sample in the Republic of China and 14.6% in the United States, but 43% of the total sample in Japan and 33.5% in England.

Estimated Number of Hysterectomies in One Year

Doctors in all four countries estimated the number of hysterectomies they performed in the year prior to the survey (1989 for United States and English doctors; 1995 for Japanese doctors; 1996 for doctors in the Republic of China). The response showed a strong difference between Asian and Western doctors: The Japanese and Taiwanese doctors performed fewer hysterectomies. In fact, 35.8% of Japanese doctors and 24.5% of Taiwanese doctors who responded had not performed a single hysterectomy during the

Table 3
Age Distribution

	% (N)			
	R.O.C.	Japan	U.S.	England
<30	0.4 (2)	0.2 (1)	0 (0)	1.4 (3)
30-39	31.3 (140)	10.6 (67)	25.2 (52)	5.2 (11)
40-49	42.5 (190)	29.3 (186)	29.6 (61)	23.6 (50)
50-59	17.7 (79)	16.9 (107)	30.6 (63)	35.9 (75)
60-69	5.6 (25)	29.6 (188)	14.6 (30)	24.9 (52)
>70	2.5 (11)	13.4 (85)	0 (0)	8.6 (18)

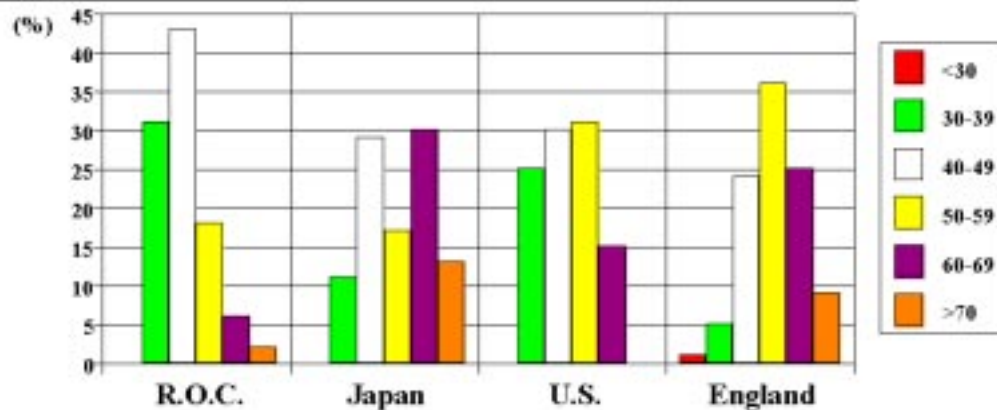


Fig. 3: Age Distribution

previous year. This is in great contrast to the practice of gynecologists in England and the United States. The majority of U.S. doctors who responded, for example, had performed more than 50 hysterectomies in the same period .

Results

The main findings of the survey are as follows:

Cases 2 and 5 provoked similar responses from physicians in all four countries. (Case 2 was designed to be a positive control case, with 100 percent of doctors expected to perform hysterectomy.)

The clinical judgements of doctors in the United States and England were similar. However, there was a difference between Eastern doctors (R.O.C. and Japan) and Western doctors (England and the United States). In general, Eastern doctors were less likely to perform hysterectomy than were Western doctors. Cases 1 and 4 exemplify this tendency.

Table 4
Estimated Number of Hysterectomies in One Year % (N)

	R.O.C.	Japan	U.S.	England
Hy=0	24.5 (109)	35.8 (227)	4.9 (10)	8.7 (17)
1-9	34.6 (154)	16.2 (103)	23.5 (48)	6.2 (12)
10-49	31.5 (140)	30.0 (190)	59.3 (121)	22.1 (43)
50-99	6.1 (27)	12.3 (78)	20.2 (21)	34.4 (67)
>100	3.4 (15)	5.7 (36)	2.0 (4)	28.7 (56)

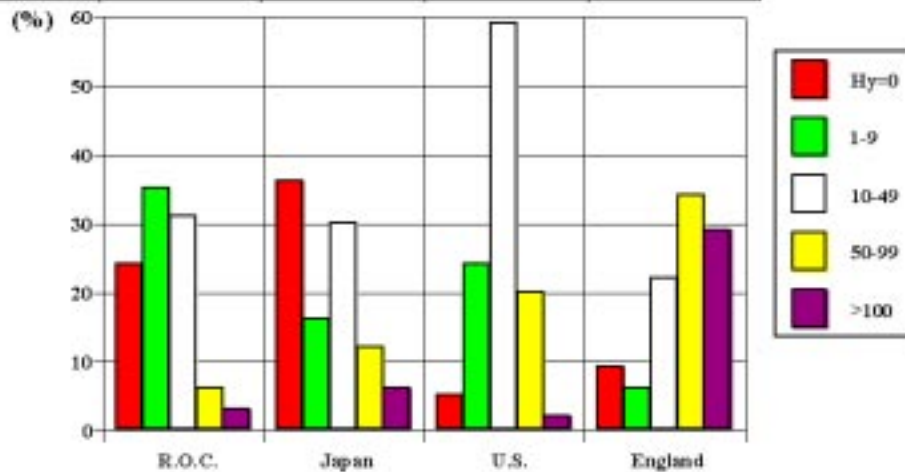


Fig. 4: Estimated Number of Hysterectomies in One Year

Physician opinion across countries differed in the cases of pre-cancer (Cases 3 and 6). Specifically, Case 3 involved a patient with potential pre-cancer, and Case 6 was a premalignant cancer case. Case 3 is the only case where Eastern doctors were more likely to perform hysterectomy than were their Western colleagues. And for this case, in contrast to all the other cases, American doctors were the least likely to perform hysterectomy.

The Japanese physicians' responses to Cases 3 and 6 were of particular interest. They were less likely to perform hysterectomy in Case 6 (pre-cancer). However, they were aggressive in performing hysterectomy in Case 3 (potential pre-cancer). Our survey did not allow us to find an explanation for this seemingly contradictory result. Future studies involving interviews with individual physicians could better explore these issues.

Table 5
The Survey Result

	% (N)					
	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
R.O.C.	13.9 (62)	91.7 (411)	78.9 (352)	23.3 (104)	22.1 (99)	71.9 (322)
Japan	10.0 (64)	94.8 (601)	80.7 (512)	43.2 (274)	20.0 (127)	44.8 (284)
U.S.	38.1 (77)	99.0 (203)	56.2 (114)	80.9 (165)	27.9 (57)	88.8 (182)
England	35.0 (70)	100 (201)	74.1 (146)	65.0 (128)	25.9 (51)	84.9 (169)

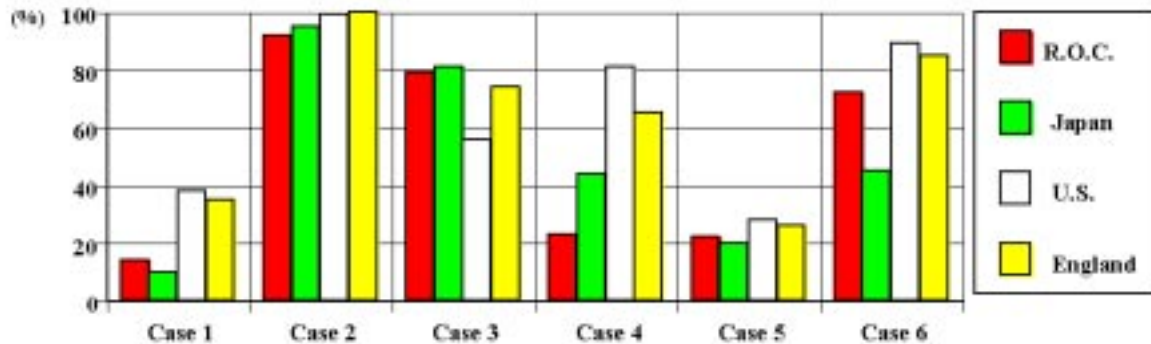


Fig. 5: The Survey Result

Discussion

In general, Eastern doctors (R.O.C and Japan) are less likely to perform hysterectomy than are Western doctors. In particular, Eastern doctors are less likely to perform hysterectomy in non-life-threatening conditions, such as dysmenorrhoea and monthly pain. Eastern doctors were more likely to perform hysterectomy than Western doctors in only one case – the one involving the condition of potential pre-cancer. In fact, Japanese doctors were more likely to perform hysterectomy in the case of potential pre-cancer than they were in the case of actual pre-malignant cancer. To further examine these findings, a more intensive study, with personal interviews, should be conducted to find the rationale behind these clinical judgments.

Case 3, involving potential pre-cancer, requires further discussion. Why were American doctors less likely to perform hysterectomy than doctors in other countries in this case? One reason may be linked to the large number of medical malpractice cases in the United States. Physicians may be more careful in potential cancer cases as they do not want to be accused of performing unnecessary hysterectomies. Several American doctors wrote notes saying that more checkups and exams would be preferable. On the other hand, the status of the informed-consent system in Japan, especially in cancer cases, may affect the compara

-tively high rate of hysterectomies by Japanese doctors in this case. In general, Japanese physicians are less likely to tell their patients about cancer directly. But in cases of potential pre-cancer, how can doctors manage their follow-up exams and monitoring of patients without telling them the truth? A patient might not come back unless she was told the possibilities. To avoid the risk, some doctors may perform hysterectomy prematurely and as a safeguard.

Overall, this study shows that there exists a difference in physician decision-making in cases of hysterectomy based on the physicians' cultural background. This difference needs to be especially considered when introducing critical pathways or clinical guidelines from one country to another.

Other Publications/Conferences Presenting Results of This Study

Nishimura, MY, Uphoff, B, McCullough (1995) "Hysterectomy: A Study Exploring the Hysterectomy Rate Differences Between the United States and England." *Journal of Health Care and Society* 5(3): 47-58.

Nishimura, MY, Mitsutake, N. (1996) "Clinical Judgement of Japanese Gynecologists." *Journal of Health Care and Society* 6(3): 84-92.

Nishimura, Y, Mitsutake, N. (1998) "Variation of Clinical Judgment in Cases of Hysterectomy in ROC, Japan, England, and the US." *Journal of Health Care and Society* 8(2): 121-130.

Nishimura, Y. (1998) "Variation of Clinical Judgment in Cases of Hysterectomy in ROC, Japan, England, and the USA." Presentation at the Annual Meeting of the Association of Obstetrics and Gynecology, ROC (March 14-15, 1998, Taipei, Taiwan).

Hysterectomy Case #1

Miss L.G., a single 40 year-old administrator, complained of extremely painful periods for one year. She described the pain as a mixture of pelvic ache and cramps. This occurred with the onset of menstruation and lasted for 3-4 days. Her periods occurred for 5 days with a 28-day cycle. They were not unduly heavy, and her only other gynecological complaint was of a tendency to premenstrual tension during the week before her periods. Mefanamic acid had helped the pain, but despite this treatment, the pain remained a serious problem that prevented her from working efficiently. She had had sexual relationships in the past, but did not have a partner at the time that she was seen. She had never been pregnant. Apart from a tendency to constipation, she had no bowel or urinary symptoms.

She was in general good health but was slightly overweight. Her past history included an appendectomy in her early twenties and a diagnostic laparoscopy and D&C for pelvic pain 9 years earlier. A duplex right ureter had been identified during a micturating cystogram performed in childhood.

Pelvic examination revealed a normal vulva, vagina, and cervix. Her uterus was normal in size, anteverted and mobile. There were no adnexal masses. Constipated colon was palpable anterior to the uterus. She requested a hysterectomy to "cure" her dysmenorrhoea.

Would you perform a hysterectomy for this woman? Yes No
If yes, would you perform the hysterectomy within the next month? Yes No

Hysterectomy Case #2

Mrs. B.V., a widowed 74-year-old woman, had postmenopausal bleeding. D&C revealed adenocarcinoma of the endometrium. The lesion was a grade 1 on the FIGO scale.

A pelvic examination demonstrated a uterus that was not abnormal in size, and blood was still present in the vaginal vault.

The patient was referred by a general practitioner for definitive therapy. The patient openly mentioned she had no reservations about having a hysterectomy.

Would you perform a hysterectomy for this woman? Yes No
If yes, would you perform the hysterectomy within the next month? Yes No

Hysterectomy Case #3

Mrs. P.N. was a married 39-year-old female, with two children. She had an abnormal pap smear and was referred by a general practitioner. Colposcopic directed biopsies revealed a CIN III lesion at the one-o'clock position but with extension into the endocervical canal beyond visualization. Biopsies confirmed the CIN III lesion and the endocervical canal currettings were positive for dysplastic squamous epithelium.

After discussing these findings, the patient added that she wished to be sterilized.

Examination revealed a female in good health and ideal weight. Pelvic exam noted a mid-position mobile uterus that descended into the lower vaginal vault.

The patient asked, "Why can't we do a hysterectomy and get it all over with?"

Would you perform a hysterectomy for this woman? Yes No
If yes, would you perform the hysterectomy within the next month? Yes No

Hysterectomy Case #4

Mrs. P.F., a 36-year-old widow, presented complaining of lower abdominal discomfort and a persistent vaginal discharge for six months. During this time she had experienced intermittent monilial vaginitis, which had responded to treatment with antifungal agents. The lower-abdominal discomfort was constantly present, but she had noticed that it was worse when lifting heavy objects. She had no other symptoms suggestive of prolapse but had noted that her cervix seemed lower when she was inserting tampons. Her periods occurred with a regular 7/28 day cycle.

She had been married twice and had four children ages 4-18. She had had a new sexual partner for eighteen months, and she complained that during intercourse, her vagina seemed to be extremely lax and that coitus was no longer enjoyable because of this.

On direct questioning, she admitted to occasional leakage of urine with coughing and sneezing. She also described slight urgency and urge incontinence and infrequent nocturia. Her past history included a left salpingo-oophorectomy at the age of 21 years and two subsequent laparoscopies for pelvic pain, during which pelvic adhesions were identified and divided.

There was no abnormality on abdominal examination. Pelvic examination revealed a deficient perineum and confirmed a lax vagina with a moderate cystocele, a marked rectocele and first-degree uterine descent. Her cervix appeared to be healthy, and the uterus was of normal size, anteverted and mobile. There were no adnexal masses.

In view of her urinary and prolapse symptoms and the above pelvic findings, arrangements were made for her admission for anterior colporrhaphy and posterior colpoperinorrhaphy. When she was admitted to the hospital, she asked if a hysterectomy could be performed at the same time because of her heavy periods.

Would you perform a hysterectomy for this woman? Yes No
If yes, would you perform the hysterectomy within the next month? Yes No

Hysterectomy Case #5

Mrs. C.H., a married 51-year-old with three children, complained of minor pelvic pressure over the last six months. The patient noted regular menses, the last being two weeks ago.

Examination revealed a 10-week-size uterus that was mobile and normal in contour. No adnexal masses palpable, and the remainder of the examination was normal.

The patient was a nurse and complained that the minor pressure and pelvic discomfort contributed to her tiredness at work. Although she expressed reservations about having a hysterectomy, she wondered whether a hysterectomy might make her more comfortable.

Would you perform a hysterectomy for this woman? Yes No
If yes, would you perform the hysterectomy within the next month? Yes No

Hysterectomy Case #6

Mrs. E.K., a widowed 56-year-old female, presented postmenopausal bleeding. D&C revealed adenomatous hyperplasia with atypia.

Examination revealed a slightly overweight woman of average height with moderate untreated hypertension. Pelvic exam noted a ten-centimeter uterus with no adnexal masses present. The patient added that her mother had had cancer of the uterus and was treated with hysterectomy. She asked if she should have one too.

Would you perform a hysterectomy for this woman? Yes No
If yes, would you perform the hysterectomy within the next month? Yes No

Comments: Using this page, please discuss any similar cases you have recently encountered and how you treated them, as well as any other issues you consider relevant.

About the Authors

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