European Journal of Obstetrics & Gynecology and Reproductive Biology, 36 (1990) 259–263
Elsevier

EUROBS 01007

Plenary Session IV – Operative Gynaecology

Chairpersons:
S. Schwarz, Poland
R. Sikorski, Lublin, Poland

Various effects of abdominal and vaginal hysterectomy in benign diseases

E. Gitsch, Elisabeth Vytiska-Binstorfer, W. Skodler

1st Department of Obstetrics and Gynaecology, University of Vienna, Vienna, Austria

Hysterectomy; Abdomen; Vagina; Benign disease

Introduction

Hysterectomy can be done by the transabdominal or the transvaginal route. The transabdominal route is inevitable if the uterus is larger than a newborn's head, in conditions after severe adnexitis, endometriosis, and after possible previous surgery in the pelvis.

Results

The purpose of the present paper was to evaluate the complications in females of advanced age after transvaginal and transabdominal hysterectomy. 94 patients beyond 70 years of age, who underwent hysterectomy between 1970 and 1988 were recruited for this study. To ensure comparability, the study was confined to patients with uterine fibroids. For obvious reasons, the transvaginal group included patients undergoing colpoperineoplasty for descent of the uterus and the posterial wall of the vagina. Although colporrhaphy was done throughout, hospitalization in the transvaginal group was found to be 1.2 days shorter than the laparotomy group (Table I). The patient's age in the two groups was not significantly different (74.0 versus 73.6 years in the transvaginal and transabdominal groups, respectively). In the transvaginal group, spontaneous bowel movement occurred earlier than in the transabdominal group (on day 1.9 versus day 2.6). The duration of the anaesthetic was 1.6 hours

Correspondence: E. Gitsch, 1st Department of Obstetrics and Gynaecology, University of Vienna, Vienna, Austria.

0028-2243/90/$03.50 © 1990 Elsevier Science Publishers B.V. (Biomedical Division)

TABLE I

Indications for 94 hysterectomies in patients older than 70 years of age, 1970–1988

Indications	vaginal	Laparotomy
Uterus myomatosus	–	36
(of them Metrorrhagia)		14
Uterus myomatosus (or Adenomyosis uteri and Desc. ut. et vag.)	44	–
(of them Metrorrhagia	24	–
and Kolporrhaphia post.)	9	–
Uterus myomatosus and Tu. ov.	–	14
Total	44	50
Hospitalisation in days	13.4	14.6
Average age in years	74	73.6
Stoolday	1.9	2.6
Narcosis-time in hours	1.6	2.3

TABLE II

Complications in percentages

	n	Laparotomy 50	n	Vaginal hysterectomy and colporrhaphia 44
Bowel lesion		–		–
Bladder lesion	1	2.0%		–
Re-laparotomy (ileus)	1	2.0%		–
Subileus (conservative therapy)	3	6.0%		–
Wound revision (haematoma)	1	2.0%		–
Secondary bleeding		–		–
Thrombosis	2	4.0%	1	2.27%
Psycholog. complication (disorientation)	2	4.0%	–	
Urinary tract infection	5	10.0%	14	31.80%
Cardial complication (decompensation)	1	2.0%		–

TABLE III

Electrolyte (normal value mmol/l)	preoperative	1. day	2. day	3. day
Na^+ (135–152)				
vaginal	141.7 ±1.4	139.3 ±2.6	142.7 ±3.6	142.4 ±2.5
abdominal	141.6 ±2.8	137.7 ±4.4	139.1 ±2.1	141.7 ±2.0
K^+ (3.5–5.2)				
vaginal	4.1 ±0.5	3.5 ±0.3	3.8 ±0.3	3.9 ±0.4
abdominal	4.0 ±0.3	3.5 ±0.3	2.9 ±0.5 *	3.5 ±0.5
Mg^{2+} (0.8–1.0)				
vaginal	0.78±0.1	0.70±0.1	0.76±0.1	0.81±0.1
abdominal	0.77±0.1	0.66±0.2	0.75±0.1	0.74±0.1
Cl^- (95–110)				
vaginal	100.9 ±1.5	100.1 ±2.2	103.1 ±2.9	101.3 ±2.1
abdominal	101.6 ±2.5	99.3 ±4.1	100.7 ±2.2	99.7 ±1.1

Vaginal (21 cases), abdominal (17 cases), * $p < 0.05$.

in the transvaginal group. This was 0.7 hours shorter than in the group with hysterectomy by laparotomy (2.3 hours) (Table I).

Complications included bladder lesions and ileus, necessitating relaparotomy in 2% of cases each, subileus in 6% and re-exploration of the wound in 2% in the transabdominal group (Table II). In the transvaginal group none of these complications were seen.

The rate of thrombosis was 4% versus 2.27% in the transabdominal and the transvaginal groups, respectively. Disorientation was seen in 4% of laparotomized patients (probably on account of the longer anaesthesia time) versus 0% in the transvaginal group.

By contrast, urinary tract infections were found to be present in 31.8% of patients undergoing transvaginal surgery. This was significantly higher than in the transabdominal group (10%). Transient heart failure was confined to the laparotomy group and occurred in 2% of patients (Table II).

Since electrolytes respond to tissue and intestine traumata, a comparison was carried out of post-surgical sodium, potassium, magnesium and chloride values in 38 patients who were operated either by vaginal or abdominal hysterectomy (Table III). No significant differences were noted for sodium, magnesium and chloride values. But, a significant drop to 2.9 mmol/l of potassium was observed in subjects by abdominal hysterectomy on the second day after surgery. This data resulted in an increased potassium substitution in patients operated by the abdominal route.

Discussion

In terms of hospitalization, patient age, spontaneous bowel movement and operating time, the results obtained in females above 70 agreed with the data reported in the literature [1,2]. In terms of the complications, laparotomy fared less well than transvaginal hysterectomy with a single exception, i.e., urinary tract infections. These occurred in 31.8% of patients in the transvaginal group. It should, however, be noted that the two groups are not fully comparable for this parameter, because nine patients undergoing transvaginal surgery had additional colpoperineoplasty. These procedures were omitted in the transabdominal group, which explains the high rate of urinary tract infections long known to occur under the conditions described from reports in the literature.

In the light of the above, it is obvious that the choice of the transabdominal versus the transvaginal approach for hysterectomy cannot be made on an 'either-or' basis. Both procedures have their clear indications as listed at the outset and patients should be selected accordingly.

What are the advantages of transabdominal hysterectomy?

(1) Median lower abdominal laparotomy offers a neat and tidy operative field with ample scope for manual exploration. This advantage is largely lost if, for cosmetic reasons, a transverse abdominal incision is placed along the margin of the pubic hair as described by Pfannenstiel.
(2) In patients with adnexal involvement, e.g. by endometriosis, safe ablative or conservative surgery with full exposure of the ureters, if necessary, is possible.
(3) If the bowel is affected, e.g. in patients with endometriosis or tuberculosis etc., surgical management associated with systemic therapy, if indicated, can be done through one and the same incision.

The advantages of transvaginal hysterectomy, by contrast, include:

(1) Absence of an abdominal incision with all its disadvantages.
(2) Shorter operating time with resultant less pronounced stress to the organism. As a consequence:
(3) Hysterectomy can even be done in old females. This is particularly helpful in patients needing hysterectomy and colporrhaphy.
(4) Hospitalization is shorter than after transabdominal hysterectomy [1,2].
(5) Because of the reduced surgical stress and the lower rate of complications, the postoperative period is better tolerated.
(6) The need for intraoperative narcotics and, more importantly, for postoperative analgetics is reduced in patients undergoing transvaginal hysterectomy.
(7) Similarly, postoperative drug consumption, e.g. antibiotics, cardiovasculars, etc. is reduced.
(8) Postoperative bleeding, if any, can always be controlled transvaginally and hardly ever necessitates laparotomy.

A comparison of the relative advantages, both in quantitative terms and by their weight – even though this is not readily comparable – shows the transvaginal approach to be superior. For the sake of completeness, it is, however, appropriate to list the potential disadvantages. Some of them have already become obvious from the description of the advantages.

Disadvantages of transabdominal hysterectomy are:

(1) If Pfannenstiel's incision is used, most of the advantages in terms of full view and ease of exploration are lost.
(2) Aside from such complications as ileus and subileus as well as peritoneal reactions including eventually peritonitis are more likely to occur than after transvaginal hysterectomy.
(3) Transabdominal hysterectomy may be associated with local wound infection and poor wound healing. These are obviously absent after transvaginal procedures.
(4) As hysterectomy increasingly needs to be done in middle-aged females, cosmetically unsatisfactory scarring, particularly in secondary wound healing or keloid formation, should not be neglected.
(5) Potential herniation of scar tissue, which may require corrective surgery, should also be considered.
(6) The transabdominal approach with splitting of the abdominal wall and closure of the wound in layers at the end of the procedure substantially prolongs the operating time. As a result, it is ruled out in patients of higher age groups and those who carry a high medical risk.

Disadvantages of the transvaginal approach include:

(1) Poor view and no room for exploring the entire abdomen.
(2) Non-operability of extensive adnexal involvement.
(3) No possibility of exploring the gut in the presence of intestinal tract involvement by gynecologic genital system lesions.

The potential complications described above can almost always be prevented by a non-invasive work-up, e.g. by sonography, computed tomography, intestinal X-rays and, in doubtful cases, by laparoscopy.

Summary and Conclusion

The relative advantages and disadvantages of the transabdominal versus the transvaginal approach to hysterectomy were evaluated and the two procedures were compared for differences in hospitalization, patient age, bowel activity and operating time on the basis of a material of 94 hysterectomized patients. Intestinal complications such as subileus were noted only in subjects who were treated by abdominal hysterectomy. This corresponded with the significant decrease in potassium in abdominally operated patients on the second post-surgical day. Transvaginal hysterectomy was found to be superior in terms of all of these parameters. Complications associated with the two procedures were also compared. Of eight potential complications, seven were found to be confined to laparotomy, while only one occurred after transvaginal hysterectomy which was, however, invariably combined with colporrhaphy. The conclusion from the above should, therefore, be not to select patients indiscriminately for either the transvaginal or the transabdominal approach, but rather to use both routes of access as best fits the circumstances.

References

Gitsch E. and Philipp K. Técnicas de histerectomla vaginal. Rev Esp Obstet Ginecol 1980;39:534.
Philipp K. Ergebnisse der routinemässigen Entfernung der Ovarien und/oder Tuben im Rahmen der vaginalen Hysterektomie. Geburtsh Frauenheilk 1980;40:159.