Evaluation of combined endoscopic and pharmaceutical management of endometriosis during adolescence

E. Hassan, A. Kontoravdis, D. Hassiakos, D. Kalogirou, N. Kontoravdis, G. Creatsas

2nd Department of Obstetrics and Gynecology, University of Athens, Areteion Hospital, Athens (Greece)

Summary

Laparoscopy is the most frequent surgical approach in gynecologic patients with acute or chronic pelvic pain. The symptomatology is frequently related to a specific gynecological pathology such as endometriosis or associated adhesive disease. During an eight year period, January 1990 to December 1997, 26 patients (aged 16-20 years) with endometriosis were diagnosed endoscopically and managed pharmaceutically in our clinic. The disease was evaluated and staged according to the American Society of Reproductive Medicine. The disease was evaluated as first stage in 16 patients (61.6%), as second stage in eight patients (30.8%), as third stage in one patient (3.8%) and as fourth stage in one patient (3.8%). Patients underwent adhesiolysis and management according to their laparoscopic findings. Postoperative pharmaceutical treatment (Danazol, GnRH analogues, Oral Contraceptives) was given. Patients were followed for the evaluation of the treatment. The efficacy of the combination of endoscopic and pharmaceutical management of the disease is discussed.

Key words: Laparoscopy; Endometriosis; Adolescence.

Introduction

Endometriosis is a common disorder during reproductive age. The disease seems to occur much earlier than was generally thought. Teenagers who have severe and persistent cyclic pelvic pain should be investigated in order to make an accurate diagnosis. Early diagnosis and prompt management of the disease gives these young females the possibility for a successful reproduction ability.

Endometriosis may be presented with different symptoms as well as different macroscopic appearances [1]. The absence of correlation between stage and symptoms gives special importance in investigating adolescent women suffering from symptoms that may attribute to the disease [1, 2]. In cases where endometritic lesions are larger than 5 mm the disease is considered invasive [2, 3]. "Deep" endometriosis is accompanied by pelvic pain and dyspareunia more often than cases with superficial lesions [3]. Deep endometriosis is usually located in the pouch of Douglas. During laparoscopy the diagnosis is accomplished with visual recognition and peritoneal biopsies [4-7].

The objective of our study was to verify the diagnosis of endometriosis by laparoscopy in adolescent women with symptoms of the disease, with or without biopsies, and to describe our therapeutic regimens.

Materials and Methods

During an 8-year period (1990-1997), 262 adolescent women aged 16-20 years with acute and chronic pelvic pain were examined in our institution and 106 were subjected to diagnostic laparoscopy. Chronic pelvic pain (CPP) was the indication for laparoscopy in 92.3% and acute pelvic pain (APP) in 7.7% of the cases. The pain was usually localized in the right (25%) and left (42.3%) lower abdomen, while 32.7% of the patients suffered from diffuse abdominal pain. Twenty-six patients were found to have endometriosis. The lesions were either usually recognized as pigmented (dark blue, red, yellowish, brown) or whitish opacities. Biopsies and peritoneal fluid cytology were performed in several cases.

The endoscopic procedure included inspection of the upper and lower abdomen. The location of the disease was determined and staging was defined according to the American Society of Reproductive Medicine (ASRM). After laparoscopy pharmaceutical treatment (Danazol, GnRH analogues, Oral Contraceptives) was given. The patients were followed-up for a mean period of 3 years. Laparoscopy was performed under general anesthesia with CO_2 pneumoperitoneum and the multiple puncture method.

Results

Endometriosis was established laparoscopically in 26 cases. In 23 patients (88.5%) the endometriotic lesions were recognized visually. Biopsy was performed in 14 cases (53.8%). Three patients were diagnosed by random peritoneal biopsies. Cytological specimens of peritoneal fluid were obtained in 11 cases (42.3%) (Table 1). Endometriotic lesions were located in the pouch of Douglas (42.3%), one or both ovaries (30.8) and the uterosacral ligaments (26.9) (Table 2).

The disease was staged according to the ASRM. Stage I endometriosis was found in 61.6% of cases. Stage II was found in 30.8%, Stage III in 3.8% and Stage IV in 3.8% of the cases. Correlations between the stage and age of patients are shown in Table 3. Adhesions were found in 30.7% of cases. Loose adhesions were noted in 23.1% of the cases and thick in 7.7% (Table 4).

Revised manuscript accepted for publication February 5, 1999

Table 1. — *Laparoscopic diagnosis of endometriosis in 26 adolescents*

Visual recognition lesions		Patches		Lesion biopsy		Peritoneal biopsy		Peritoneal fluid	
Brown	Red	No	%	No	%	No	%	No	%
9/26	14/26	23/26	88.5	11/26	42.3	3/26	11.5	11/26	42.3

Table 2. — *Location of endometriotic lesions*

Location	No of cases	%
Pouch of Douglas	11	42.3
Ovaries	8	30.8
Uterosacral Ligaments	7	26.9
Total	**26**	**100.0**

Table 3. — *Correlation between stage of the disease and age of patients*

Stage	N	%	Age (years)
Stage I	16	61.50	16-20
Stage II	8	30.80	17-20
Stage III	1	3.85	19
Stage IV	1	3.85	20

Table 4. — *Location and type of adhesions*

Stage of disease	Endometriosis		Adhesions				Total No of patients
	Peritoneum	Ovary	Ovary		Tube		
			Filmy	Dense	Filmy	Dense	
Stage I	14	2	2	–	–	–	16
Stage II	6	2	4	–	2	–	8
Stage III	1	0	–	1	1	1	1
Stage IV	1	0	–	1	–	1	1
Total	**22**	**4**	**6**	**2**	**2**	**2**	**26**

Table 5. — *Management procedures of endometriosis performed in adolescent women*

Diagnostic-therapeutic procedures	APP	CPP	No of cases	%
Diagnostic laparoscopy	2	24	26	100
Operative laparoscopy	2 (Cystectomy)	10 (Cauterization)	12	46.1
Pharmaceutic treatment	2	18	20	76.9
Danazol	–	6	6	23.1
GnRH analogues	2	10	12	46.1
Oral contraceptives	–	2	2	7.7
No treatment	–	6	6	23.1

APP: Acute pelvic pain
CPP: Chronic pelvic pain

In two cases cystectomy was performed. Electrocoagulation of the lesions took place in 10 cases. Postoperatively, 6 patients received Danazol 400 mg daily for 4 months, 12 patients were treated with GnRH analogues (Leuproreline, ABBOTT) 3.75 mg monthly for 4 months and 2 patients received oral contraceptives (Table 5).

The patients were followed-up for a mean period of three years (2-4 years). The pain was eliminated in 21 cases (80.7%) during the first year. During the second year 19 patients (73%) were without symptoms. During the third year one patient was subjected to second-look laparoscopy and recurrence of the disease was confirmed.

Discussion

During adolescence endometriosis may produce various symptoms often mimicking other gynecological or gastrointestinal problems [1, 8]. Diagnosing endometriosis preoperatively is difficult and sometimes impossible. Deep invasive lesions are more closely correlated with pelvic pain and dysmenorrhea than superficial lesions [2]. Endometriotic foci infiltrating deeper than 5 mm are considered as deeply invasive lesions [2]. Laparoscopic diagnosis may present problems in staging superficial or deep lesions, resulting in inadequate treatment [9-12].

In our study the time interval between the onset of CPP until laparoscopy was over 1.5 years and was related to menstruation in most cases. There was no correlation between the stage and the referred pelvic pain. Probably psychological or other uncertain factors may aggravate pain in endometriosis [8, 11].

In most of our cases regression to the symptoms was noted in the first (80.7%) and the second postoperative year (73%). The patients who had recurrence of CPP were in majority to those who received no treatment or oral contraceptives due to minimal endometriosis. Treatment with GnRH analogues for a 4-month period revealed a 19.2% recurrence rate during the second postoperative year.

Unfortunately there are no medications to eradicate endometriosis. In cases with deep invasive lesions resection with various techniques may prolong the interval until recurrence [1, 3] while simple cauterization has no satisfactory results [14]. Full resection of endometrial lesions is mandatory for obliterating the symptoms, especially in young women [12]. The use of lasers or other operative instruments have good results and the patient can have all the benefits of a successful treatment. The surgeon has the advantage of magnification for better visualization of the anatomic elements and lesions and can operate with greater accuracy [14, 16]. One disadvantage of the laparoscopic method is the prolonged time (1-3 hours in our cases) needed for a satisfactory resection of all lesions. Other authors report even longer operative duration [3, 15].

Conclusions

The preoperative diagnosis of endometriosis is difficult. Selective cases of CPP or APP may need to be evaluated laparoscopically. Laparoscopic management of endometriosis is satisfactory provided that the lesions are resected and destroyed extensively without complications from other pelvic organs and the recurrence rate is low. Pharmaceutic treatment is helpful in obliterating endometriotic tissue. Laparoscopy dominates in diagnosing endometriosis and offers all the advantages of a selective operative method.

References

[1] Emmert C., Romann D., Riedel H.: "Endometriosis diagnosed by laparoscopy in adolescent girls". *Arch. Gynecol. Obstet.*, 1998, *261* (2), 89.

[2] Koninckz P., Meuleman C., Demegere S., Lesaffre E., Comillie F.: "Suggestive evidence that pelvic endometriosis is a prospective disease, whereas deeply infiltrating endometriosis is associated with pain". *Fertil. Steril.*, 1991, *55*, 759.

[3] Garry R.: "Commentaries. Laparoscopic excision of endometriosis the treatment of choice". *Brit. J. Obstet. Gynecol.*, 1997, *104*, 513.

[4] Reich H.: "Endometriosis". In: Hulka J. F., Reich H. (eds.). Textbook of Laparoscopy, Philadelphia, WB Sauders, 1994, 211.

[5] Sutton C., Ewen S., Whitelaw N., Haines P.: "Prospective randomized double blind controlled trial of laser laparoscopy in the treatment of pelvic pain associated with minimal mild and moderate endometriosis". *Fertil. Steril.*, 1994, *62*, 696.

[6] Guzick D., Paul N., Adamson G., Buttram V., Canis M., Malinak L.: "Prediction of pregnancy in infertile women based on the American Society for Reproductive Medicine's revised classification of endometriosis". *Fertil. Steril.*, 1997, *67*, 822.

[7] Laufer M., Goitein L., Bush M., Cramer D., Emans S.: "Prevalence of endometriosis in adolescent girls with chronic pelvic pain not responding to conventional therapy". *J. Pediatr. Adolesc. Gynecol.*, 1997, *10* (4), 199.

[8] Reese K., Reddy S., Rock J.: "Endometriosis in an adolescent population: the Emory experience". *J. Pediatr. Adolesc. Gynecol.*, 1996, *9*, 125.

[9] Cornillie F., Oosterlynck D., Lauweryns J., Koninckz P.: "Deeply infiltrating pelvic endometriosis: histology and clinical significance". *Fertil. Steril.*, 1990, *53*, 978.

[10] Nisolle M., Donnez J.: "Peritoneal endometriosis, ovarian endometriosis and adenomyotic nodules of the rectovaginal septum are three different entities". *Fertil. Steril.*, 1997, *68* (4), 585.

[11] Damario M., Rock J.: "Pain recurrence: a quality of life issue in endometriosis". *Int. J. Gynecol. Obstet.*, 1995, *50*, 527.

[12] Dmowski W., Lesniewicz R., Rana N., Pepping P., Noursalehi M.: "Changing trends in the diagnosis of endometriosis: a comparative study of women with pelvic pain or infertility". *Fertil. Steril.*, 1997, *67*, 238.

[13] Redwine D.: "Laparoscopic excision of endometriosis. (LAPEX) by sharp dissection". In: Martin D. C., Redwine D. B., Reich H., Kresh A. J., editors. "Laparoscopic appearances of endometriosis". Vol. 1, Memphis Tennessee. Resurge Press, 1990, 9.

[14] Wheeler J., Malinah L.: "Recurrent endometriosis". *Contrib. Gynecol. Obstet.*, 1987, *16*, 13.

[15] Redwine D.: "Conservative laparoscopic excision of endometriosis by sharp dissection: life table analysis of reoperation and persistent or recurrent disease". *Fertil. Steril.*, 1991, *56*, 628.

[16] Creatsas G., Hassan E., Koumantakis E.: "Adolescent laparoscopy". *Clin. Exp. Obstet. Gynecol.*, 1997, *24*, 8.

Address reprint requests to:
ELSHEIKH HASSAN
Pindarou 1A
14565 Ekali (Greece)