

PELVIC TUMORS IN PATIENTS UNDER 18 YEARS

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Summary: Between 1965 and 1985 28 patients aged between 10 and 18 years (average age 16.3 years) were treated for pelvic tumor, with a frequency of 0.13% of gynecological admissions. Ovarian tumor was the most frequent type (21 cases), followed by paraovarian tumor (5 cases), and uterine tumor (2 cases), 21 of pelvic tumor were neoplastic of which 18 benign.

Among the ovarian neoplasias the most prevalent was cystadenoma (9 cases), followed by dermoid tumors (7 cases).

Key words: childhood, adolescence, tumors, ovarian mass, dysgerminoma, paraovarian mass, surgery.

INTRODUCTION

Tumors of the female genital apparatus in infancy and adolescence are rare. Almost all histological types have been described. Benign ovarian neoplasias usually prevail^(1,2). Early diagnosis is important since surgical therapy is frequently possible in these cases thus allowing conservation of fertility. This paper studies the incidence of pelvic tumors in patients under 18 years of age admitted to the First Clinic of Obstetrics and Gynecology, Catania University Medical School, Catania, Italy between 1970 and 1985, with special attention given to age of patient, age at onset of menarche, histological type and site of neoplasia, bilaterality and dimensions of the tumor, type and duration of symptoms, surgical therapy adopted, and the stage and survival rate in malignant neoplasia.

CASE HISTORIES

Between 1965 and 1985, 28 patients aged between 10 and 18 (average age 16.3 years) were treated for pelvic tumor in this department, a frequency of 0.13% of gynecological admissions. Ovarian tumor was the most frequent type (75%; 21 cases), followed by paraovarian tumor (17.86%; 5 cases), and uterine tumor (7.14%; 2 cases) (table 1). 75% (21 cases) of pelvic tumors were neoplastic, of which 85.71% (18 cases) benign, and 14.29% (3 cases) malignant.

Among the ovarian neoplasias (21 cases) the most prevalent was ovarian cystadenoma (9 cases; 42.85%) of which 6 were pseudomucinous and 3 serous, followed by dermoid tumors (7 cases; 33.33%). Dysgerminoma represented 9.52% (2 cases) of ovarian tumors while fibroma and ovarian fibroadenoma were diagnosed in 1 case each (4.76%). There was also 1 case (4.76%) of well differentiated pseudomucinous ovarian cystocarcinoma in a 13 year old girl. Serous cysts of the ovary occurred in 9.52% (2 cases) of ovarian tumors and in 7.14% of pelvic tumors while paraovarian cysts occurred in 17.81% (5 cases) of pelvic tumors.

Table 2 through 7 report the age of the patients, age at menarche, site and dimensions of

Table 1. — Frequency of pelvic mass in patients aged <18 years.

Site of tumor	%	No. of cases
Ovarian	75%	21
Paraovarian	17.86%	5
Uterus	7.14%	2

the tumors, type and duration of symptoms, and results of follow-up for each histological type of tumor in cases of potentially malignant or malignant neoplasia.

In paraovarian and ovarian tumors the most frequent symptoms were pain (50%; 13 cases) due in 2 cases to torsion, pelvic heaviness (42.30%; 11 cases), palpation of an abdominal mass by the patient (19.23%; 5 cases) and intestinal symptoms (11.53%; 3 cases). Urinary symptoms were rare (7.69%; 2 cases). The average duration of the symptoms was 117.5 days (range: 1 day to 15 months). Only 1 patient was asymptomatic.

Patients were premenarchal in 2 cases (1 patient with dermoid cysts and 1 with pseudomucinous cystadenoma), in 2 cases menstrual flux was menometorrhagic (1 patient with cystadenoma and 1 with cyst of the mesosalpinx), 2 patients were oligomenorrhic (1 patient with serous cysts of the ovary and 1 with cystadenoma) and 1 patient with dermoid cyst had secondary amenorrhea.

The ovarian and paraovarian tumors were located on the left in 53.84% of cases (14 cases), on the right in 34.61% (9 cases), and bilateral in 7.69% (3 cases). Of the bilateral cases 1 patient had bilateral cysts of the mesosalpinx, another bilateral pseudomucinous cystadenoma, and a third ovarian fibroadenoma and

pseudomucinous cystadenoma of the contralateral ovary. The average diameter of the tumor was over 10 cm.

Of the 2 uterine fibromyomas 1 was localized in the anterior wall while the other was in the uterine cervix with infraligamentary development in close proximity to the uterine vessels.

In benign paraovarian and ovarian tumors either enucleation (19.23%; 5 cases) or monolateral adnexectomy (65.38%; 17 cases) was performed if possible. In 1 patient (3.84%) with bilateral pseudomucinous cystadenoma with total destruction of the ovarian parenchyma, bilateral adnexectomy with subsequent estroprogestin administration was performed. In 1 case of cysts of the mesosalpinx partial salpingectomy was done.

In 2 cases of dysgerminoma and in the case of well differentiated ovarian cystocarcinoma (FIGO stage 1A) monolateral adnexectomy was performed and was associated in 2 cases with appendectomy, and random biopsy of the aortic and pelvic lymph nodes was negative. 6 year (2 cases) and 5 year (1 case) follow-up showed these patients to be in good health. In 1 patient with fibromyoma myomectomy was performed while in another the tight vicinity of intraligamentary cervical fibromyoma to the uterine vessels required exploratory laparotomy.

DISCUSSION AND CONCLUSION

Between 1970 and 1985 out of 21,370 gynecological admissions to this department 28 patients under 18 years of age were treated for pelvic tumor (with an incidence of 0.13%). The youngest patient was 10 years old although pelvic

Table 2. — Ovarian dermoid cyst.

Case	Age	Age at menarchy	Symptoms	Duration of symptoms	Site of tumor	Dimensions (cm)	Therapy
1	12	—	Pelvic mass	7 days	Right	16×10	Adnexectomy
2	18	12	Amenorrhea Pelvic heaviness	1 years	Right	10×9	Adnexectomy
3	18	9	Pelvic Pain	9 months	Left	12×12	Adnexectomy
4	18	12	Pelvic Pain Dysmenorrhea	15 months	Left	19×12	Adnexectomy
5	18	11	Asymptomatic	—	Right	16×10	Adnexectomy
6	18	14	Abdominal distension	1 year	Left	16×10	Adnexectomy
7	17	12	Pelvic mass Pelvic heaviness	10 days	Left	15×9	Adnexectomy

Table 3. — *Ovarian cystadenoma in patients under 18 years.*

Case	Age	Age at menarchy	Histological type	Symptoms	Duration of symptoms	Site of tumor	Dimensions (cm)	Therapy outcome
1	16	11	Pseudomucinous Cystadenoma	Pain, Vomit	1 day	Right	10×9	Adnexectomy
2	17	13	Pseudomucinous Cystadenoma	Pain, Palpation of pelvic mass, pollachiuria, stranguria	3 months	Left	16×15	Adnexectomy
3	13	—	Pseudomucinous Cystadenoma	Pelvic heaviness	6 months	Left	17×15	Adnexectomy
4	15	9	Serous Cystadenoma and ovarian controlateral Adenofibroma	Pelvic pain, Palpation of pelvic mass, Intestinal symptoms		Bilateral	14×10	Left Adnexectomy and wedge resection of right ovary
5	15	11	Pseudomucinous Cystadenoma	Uterine bleeding	3 months	Left	8×6	Left Adnexectomy
6	18	9	Serous Cystadenoma	Oligomenorrhea	6 months	Right	10×8	Enucleation of tumor
7	15	9	Serous Cystadenoma	Pelvic heaviness, intestinal symptoms		Left	14×11	
8	18	12	Bilateral Pseudomucinous Cystadenoma	Pelvic pain, Pelvic heaviness	1 year	Bilateral	16×15 both	Bilateral adnexectomy
9	13	12	Pseudomucinous Cystadenoma	Hypogastric heaviness	10 months	Left	15×15	Adnexectomy
10	14	13	Cystocarcinoma 1A FIGO stage	Pelvic pain, Pelvic heaviness	20 days	Right	16×16	Adnexectomy * Appendectomy

* Free of illness after six years.

Table 4. — *Pure ovarian dysgerminoma (2 cases).*

Case	Age	Age at menarchy	Symptoms	Duration of symptoms	Site of tumor	Dimensions (cm)	Stage FIGO	Therapy	Follow-up
1	13	11	Pelvic heaviness		Left	16×15	1 A	Adnexectomy Random Lymphadenectomy	6 years *
2	17	12	Pelvic heaviness	40 days	Right	3×4	1 A	Adnexectomy Appendectomy Lomboarctic lymphadenectomy	5 years *

* Free of illness.

Table 5. — *Ovarian Serous Cysts (2 cases).*

Case	Age	Age at menarchy	Symptoms	Duration of symptoms	Site of cyst	Dimensions (cm)	Therapy
1	18	12	Pelvic Pain Vomit	1 day	Left	9×11	Adnexectomy
2	18	13	Pelvic Pain	4 months	Right	9×10	Adnexectomy

Table 6. — *Paraovarian cysts (5 cases).*

Case	Age	Age at menarchy	Symptoms	Duration of symptoms	Site of tumor	Dimensions (cm)	Therapy
1	18	13	Pelvic Pain, Pelvic heaviness	6 months	Left	9×8	Enucleation
2	15	11	Pelvic Pain, Bleeding	40 days	Bilateral	3×4 (Left) 5×6 (Right)	Enucleation
3	16	10	Pelvic Pain, Vomit	9 days	Left	8×7	Enucleation
4	15	9	Pelvic heaviness, Gastrointestinal symptoms	4 months	Left	14×10	Enucleation
5	18	11	Right Iliac Pain	10 months	Right	3×3	Salpingectomy

Table 7. — *Uterine Fibromyoma (2 cases).*

Case	Age	Age at menarchy	Symptoms	Duration of symptoms	Site of tumor	Dimensions (cm)	Therapy
1	18	13	Pelvic Pain Dysmenorrhea	6 months	Infralegamentous (Right)	3×3	Explorative Laparotomy
2	18	12	Hypogastric Pain, Vomit, Nausea	4 days	Interstitial in the anterior wall	7×6	Myomectomy

masses in fetuses have been described in literature ⁽³⁾.

In our case histories in accordance with cases reported in literature adnexal tumors prevail (75%; 21 cases out of 28) and among these ovarian tumors have the highest incidence (80.95%; 17 cases). Among ovarian tumors cystadenoma prevailed (9 cases). Of the germinal tumors only 2 cases of dysgerminoma were reported.

The rarity of pelvic tumors in young patients (almost 1% of all pelvic neoplasias occur under the age of 20 years) and the aspecificity of symptoms frequent-

ly leads to late diagnosis. This observation is also valid in our experience in which, except for 1 case of torsion of the mass, the duration of symptoms was 117 days and the average dimensions of the mass were notable (10 cm). Among the most frequent symptoms was pain, palpation of the tumor by the patient or the mother, and pelvic heaviness. Accurate inspection, palpation, gynecological and/or rectal exam possibly under general anesthesia along with echography are very helpful in the diagnosis. Rarely is it necessary to utilize laparoscopy or nuclear magnetic resonance. In the interpretation

of the instrumental tests one must remember that frequently in these patients the pelvic tumors are located in the abdominal cavity if the development of the pelvis is incomplete. Differential diagnosis involves the ruling out of various pathologies such as ectopic kidney, renal and hepatic tumor, mesenteric cyst, parasitic or disontogenetic cysts, cysts of the urachus, and hematosalpinx. In the complicated form of torsion there is the typical clinical picture of acute abdomen and thus differential diagnosis involves the ruling out of appendicitis, complications of Meckel's diverticulum, intestinal intusseption, salpingitis, or urinary calculosis.

One final important aspect is the therapy to be adopted. In benign tumors of the ovary conservative treatment with enucleation of the tumor is indicated and we have utilized this in 19.23% of cases. In cases in which the whole ovarian parenchyma is destroyed the surgical procedure of choice is adnexectomy. As in a case of bilateral adnexectomy already described by us it is essential that the uterus be conserved, and if the patient is menstruating estroprogestin therapy must be done. In 2 cases of dysgerminoma and in that of FIGO IA carcinoma of the ovary we performed simple adnexectomy and fol-

low-up showed patients to be in good health. In other advanced stages of the illness radical treatment as with adult patients is indicated.

BIBLIOGRAPHY

- 1) Moore G., Barry S.S., Selcuk E.: *Am. J. Obst. Gyn.*, 99, 913, 1967.
- 2) Groeber W.R.: *Am. J. Obst. Gyn.*, 86, 1027, 1963.
- 3) Zucker J.M.: *Bull. Cancer (Paris)*, 69, 304, 1982.
- 3) Martins S., Klinger O. J.: *Am. J. Obst. Gyn.*, 89, 386, 1964.
- 5) Minicucci F.: *Riv. Ped. Sic.*, 1, 118, 1960.
- 6) Mitolo G., Bellone F.: *Min. Gin.*, 18, 1177, 1965.
- 7) Dewhurst C.F.: "Paediatric Gynecology" in *Recent Advances in Obstetrics and Gynaecology*, Churchill Livingstone, Edinburgh, London and New York, 1977.
- 8) Agosta A., Kaplan A.L., Kaufman R.H.: *Am. J. Obst. Gyn.*, 112, 944, 1972.
- 9) Adelman S., Benson C.D., Hertzler J.H.: *Surg. Gyn. Obst.*, 141, 219, 1975.
- 10) Thompson J.P., Dockerty M.B., Symmonds R.E., Hayles A.B.: *Am. J. Obst. Gyn.*, 97, 1059, 1967.
- 11) Radman M.H., Korman W.: *Am. J. Obst. Gyn.*, 79, 989, 1960.
- 12) Poshychinda D., Kahana L., Del Corral F., Hamblen E.C.: *Am. J. Obst. Gyn.*, 79, 995, 1960.
- 13) Doran A.: *Tr. Path. Soc. Lond.*, 32, 147, 1882.
- 14) De Palo *et al.*: *Tumori*, 64, 33, 1978.