

MANAGEMENT OF BENIGN ADNEXAL MASSES BY VAGINAL ROUTE

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1. ABSTRACT

Until recently, surgical treatment of a benign adnexal mass implied a laparotomy. In recent years, the development of laparoscopic surgery, as well as ultrasound-guided aspiration techniques, have significantly modified the treatment options for these patients. These procedures have shown considerable advantages. They have reduced surgical trauma and have shortened the hospital stay.

We present the results of our experience on the feasibility of a trans-vaginal surgical approach for the removal of benign adnexal masses. This technique, using traditional and cheap surgical instruments, allows the surgeon to excise benign adnexal masses, by entering the peritoneum through the posterior vaginal fornix and thus avoids the trauma of laparotomy.

Fifty-four patients were operated on by this technique at our Department. The mean age was 39 years (range 21-66). In all cases, the operation was completed by the trans-vaginal approach. The median operative time was 30 minutes (range 20-45), and no blood transfusion was needed. The pathological diagnoses were as follows: functional ovarian cyst; 19, endometriotic cyst; 18, dermoid cyst; 11, parovarian cyst; 4 and peduncolated fibroid of the uterine fundus; 2 cases. The diameter of the adnexal masses ranged from 3 to 10 cm (median of 6 cm). In 30 cases, a conservative surgery was done (including 2 myomectomies), whereas in 24 cases, the adnexectomy was needed. Median post-operative stay in hospital was 4 days (range 1-14).

This study shows the feasibility of trans-vaginal surgical approach for benign adnexal masses.

The advantages and limitations of this technique, as well as of the traditional and laparoscopic surgery are considered and discussed. We believe that the transvaginal approach could be useful and cost-effective for the treatment of selected cases of adnexal masses.

2. INTRODUCTION

Benign adnexal masses are frequently encountered in gynaecological practice, the overall incidence of which has increased in recent years, both in absolute terms and in relation to the refinement of diagnostic instruments.

Surgery, which has always played a role of the greatest importance in this type of pathology, has recently undergone an evolution which has seen the traditional laparotomy placed side-by-side with new minimally-invasive methods, namely laparoscopic surgery and ultrasound-guided procedures (1-2). Such innovative means have aroused a lively interest in the possibility of confronting and resolving some surgical problems without resorting to opening the abdomen, and have shortened the hospital stay and opened the possibility of treatment as an outpatient procedure. In recent years, many resources, both economic and educational, have been dedicated to the development of technology and experience in the field of laparoscopic surgery. The combined use of laparoscopy and trans-vaginal surgery has been recently proposed for management of dermoid cysts (3).

In the search for simpler alternative techniques which are less traumatic for the patient and more economical, the idea of using trans-vaginal surgery alone in the treatment of benign adnexal masses was reappraised. This method uses the instruments and techniques of conventional surgery, with a more restricted operative field, but with the advantage of direct access to the adnexae and a shorter operative time. Essential pre-conditions for the application of this technique are an accurate diagnostic picture, which excludes any suspicion of malignancy and which confirms the feasibility of the

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operation, and an adequate experience in vaginal surgery on the part of the surgeon. Although the technique of vaginal surgery for the treatment of adnexal masses has been described in the past (4-5), the method was rarely followed and fell into disuse.

This paper presents the results of a study which was carried out with the aim of confirming the feasibility, as well as the clinical and economical advantages of trans-vaginal surgery in the treatment of benign adnexal masses.

3. MATERIAL AND METHODS

Series

The current study included 54 patients with benign, not previously treated adnexal masses, less than 10 cm in diameter, and believed to be operable trans-vaginally. The age of the patients ranged from 21 to 66 years (mean 39.2) and 48% of cases were nulliparous. In all cases, after the routine preoperative investigations, tests were carried out to evaluate the characteristics of the mass (site, mobility, dimensions) and the feasibility of the trans-vaginal approach. With this aim, a gynaecological examination and determination of CA-125 levels were performed. Particular attention was paid to the ultrasound evaluation of the mass using both suprapubic and transvaginal probes. In 4 cases, where there was some uncertainty, a CT scan of the pelvis was obtained.

The pre-operative diagnosis was of ovarian cyst containing fluid with a regular outline in 23 cases (42.6%), ovarian cyst containing endometriotic tissue in 18 cases (33.3%), dermoid cyst in 11 cases (20.4%), and 2 (3.7%) cases of a solid homogeneous mass with no suggestion of malignancy.

The patients with ovarian endometriosis had previously undergone a diagnostic laparoscopy and medical treatment, and presented with an endometrioma revealed by ultrasound.

Surgical Technique

The operations were carried out under general or regional (epidural) anesthesia. Patient was placed in the lithotomy position. The bladder was emptied and the genital area was cleaned with iodine solution. The technique used consisted of the following steps: 1) Exposure of the cervix with vaginal retractors and elevation using two Collins forceps. 2) Transverse incision, using cutting diathermy, of the posterior fornix up to the peritoneum. 3) Placement of a long straight retractor in the peritoneal cavity to elevate the uterus. 4) Introduction of a swab to retract the bowel. 5) Exposure of the adnexae: grasp the ovary or the utero-ovarian ligament with ring forceps. 6) Externalization of the adnexae and open procedure, adnexectomy or enucleation of the mass with ovarian reconstruction, depending on the pathology found. 7) Closure in

layers of the peritoneum and vaginal mucosa using catgut.

4. RESULTS

In all 54 patients, it was possible to complete the operation transvaginally. The time of the operation ranged from 20 to 45 minutes (median of 30 minutes) and none of the cases required a blood transfusion.

The pathological diagnoses were as follows: functional ovarian cyst in 19 cases, endometriotic cyst in 18 cases, dermoid cyst in 11 cases, paraovarian cyst in 4 cases and pedunculated fibroid of the uterine fundus in 2 cases. The diameter of the adnexal mass ranged from a minimum of 3 cm to a maximum of 10 cm (median of 6 cm). In 30 cases, a conservative operation was performed (including 2 myomectomies), whilst in 24 adnexectomy was required. Post-operative stay (mean of 4 days, range 1-14) was less than 48 hours in 24% of cases and only extended up to the maximum of 14 days in one patient. The characteristics of the lesion and the type of operation performed are summarised in Table 1.

Amongst the complications noted, 8 were relatively unimportant and 2 were serious. The former consisted of 7 cases of a raised temperature of greater than 38°C more than 2 days after the operation for a period of at least 2 days, and one case of mild dyspareunia which resolved spontaneously in the course of a few weeks. The two serious complications were pelvic abscesses which presented 4 and 7 days, respectively, after discharge and required surgical drainage.

5. DISCUSSION

This preliminary study demonstrates how it is possible to use a trans-vaginal surgical approach in the treatment of benign adnexal masses.

However, in our opinion this technique must be seen not as a replacement for conventional surgery or the new minimally-invasive techniques, such as laparoscopic surgery and ultrasound-guided procedures. Rather, it should be considered as a possible alternative for use in the treatment of selected cases. With this aim in mind, it is necessary to critically reflect on the advantages and limitations of the different techniques.

The ultrasound-guided technique may be carried out as an outpatient procedure. This technique, however, allows the performance of only basic surgical procedures such as the aspiration of simple cysts (with a high incidence of recurrence), or needle biopsy of deep masses (2). Therefore, it does not represent an alternative to surgery, but rather a complimentary diagnostic tool which can only rarely become therapeutic.

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Table 1 - Management of benign adnexal masses by vaginal route: patients distribution by pathological diagnoses, type of surgery and parity.

Diagnosis	Number of cases	Procedure		Nulliparous
		conservative	adnexectomy	
Functional cyst	19	7	12	10
Endometriosis	18	8	10	6
Dermoid cyst	11	9	2	7
Paraovarian cyst	4	4	-	3
Peduncolated uterine fibroid	2	2	-	-
Total	54	30	24	26

Laparoscopic surgery, on the other hand, allows performance of true surgical procedures and with reduced trauma, absence of a laparotomy scar, and a post-operative stay of only a few days (1). Undoubtedly, the treatment of benign adnexal masses and in particular ovarian cysts, represents the most rational indication for this operative technique. However, beyond the enthusiasm for the excellent results obtainable and the “spectacle” of the video-surgical technology, two issues must be considered, namely the high cost and the potential risks. The length of the operation which often exceeds 3 hours and the exaggerated Trendelenburg position which is necessary to displace the bowel, increase the anesthetic risk and thus the risk to the patient. The long duration of the operation, moreover, involves a rise in costs because of the prolonged use of the operating theatre, which must be added to the cost of acquiring and maintaining the complex equipment needed, thus adversely affecting the hospital budget.

The advantages of trans-vaginal surgery are the short duration of the operation, usually 20-30 minutes, and the possibility to carry it out under regional anesthesia if required, and a subsequent considerable reduction in operative risk. The simplicity and low cost of the instruments and materials which, being the same as are used in traditional surgery and available in every hospital, are additional benefits of this procedure. This is an aspect of great practical importance which would allow the use of this technique in every centre where a sufficient experience of vaginal surgery exists.

The operative technique is very simple and allows a direct visual approach to the organs being treated. Surgical trauma to the bowel and other pelvic viscera is very limited and moreover, the absence of an abdominal scar allows a rapid post-operative recovery and offers a cosmetic advantage.

The post-operative stay, as can be gathered from the reported series, is around 3-4 days, which is

a shorter time than that required following a laparotomy for the same type of pathology.

From the technical point of view, the feasibility of the operation is influenced by the width of the operative field, which, in turn, depends on the parity, the weight and the age of the woman. It is noteworthy however, that 48% of the patients reported in this series were nulliparous. Therefore, nulliparity does not represent an absolute contraindication where there is a adequately-sized vagina. The features which cause the greatest difficulty are high site and poor mobility of the adnexal mass, and in some such cases it might be necessary to convert to an open abdominal procedure.

In the present study, 2 cases diagnosed before surgery as adnexal masses were found to be leiomyomata of the uterine fundus. Even in these cases, it was possible to complete the operation trans-vaginally without serious complications (one case had a raised temperature which prolonged the post-operative stay to 6 days).

With regard to the type of adnexal pathology suitable for treatment using trans-vaginal surgery, some doubts can be raised in the case of endometriosis. This disease is known to be multifocal and can be accompanied by extensive adhesions. The trans-vaginal approach could therefore be on one hand insufficient to document the true extent of the disease and, on the other hand, technically difficult. The cases of ovarian endometriosis reported in this series represent a specifically selected subgroup of patients in which a preceeding laparoscopic diagnosis and staging was followed by medical treatment. The limitation of the disease to one or both adnexae and the possibility of operating from below was already noted.

In general, in these cases complications were rare and were principally of an infective type,

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for which the addition of antibiotic prophylaxis is recommended.

In conclusion, critical analysis of the series suggests the following points:

1) The technical feasibility of carrying out a trans-vaginal operation is related to the size of the vagina, the shape of the pelvis and to the site, volume and mobility of the mass.

2) The operation is most straightforward when the adnexal mass is prolapsed in the pouch of Douglas, and has a diameter <10 cm and the vagina is wide.

3) Less ideal conditions require greater caution and a more specific experience in trans-vaginal surgery.

4) Trans-vaginal surgery should not be considered to be a substitute for the laparotomy or laparoscopic approach but can represent a useful alternative in selected cases.

5) The advantages from the point of view of surgical trauma, anesthetic risk and reduced cost appear considerable and are worth confirming in a larger study with a more rigorously selected series of cases.

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