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Varicocele Treatment: Which Technique is First-Line

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Abstract

Varicocele is a dilated veins pampiniform plexus secondary to valvular dysfunction; it is also one of the most frequent causes of male-factor infertility. There are several options for the treatment of varicocele, including surgical repair either by open or microsurgical approach, laparoscopy, or through percutaneous embolization of the internal spermatic vein. Our study involved 60 patients treated for primary varicocele in the urology and vascular surgery departments of the Moulay Ismail Military Hospital in Meknes.

Keywords: Varicocele – Treatment – Surgery – Embolization.

I-INTRODUCTION

Varicocele is a varicose dilation of the veins of the spermatic cord and in particular of the pampiniform plexus. It is a frequent affection, it was first described in 1541 by Ambroise Paré [1]. The modalities of treatment have evolved. To date, no technique seems to have demonstrated its superiority over others [2, 3]. Our study involved 60 patients treated for primary varicocele in the urology and vascular surgery departments of the Moulay Ismail Military Hospital in Meknes.

II- PATIENTS AND METHODES

This is a retrospective study, which involves 60 patients treated for a varicocele.The patients were divided into two groups, each group includes 30 patients:

- The 1st group was treated by open surgery or by laparoscopy.
- The 2nd group was treated by embolization.

This work was carried out within the urology and vascular surgery departments of the Military Hospital Moulay Ismail from Meknes. It consists of comparing the efficacy, complications and recurrence rate after treatment for varicocele in both groups. We included all patients with idiopathic varicocele primary symptomatic, or associated with infertility, treated during the same period.

III-RESULTS

1-Age of patients

For group 1, the average age is 32.13 ± 7.1 years with extremes of 45 to 19 years.

For group 2 the average age is 26.63 ± 9.004 years with extremes of 15 to 55 years.

2-Presenting complain

Table-2

	pain	Infertility	scrotal tumefaction	scrotal heaviness	asymptomatic
Group1	8	13	5	3	1
Group2	14	7	3	5	1

3-Imaging assessment

All patients were examined by U/S, the examination revealed:

Table-2: Breakdown by varicocele grade

	Grad2	Grade3
Group1	4	28
Group2	7	30

50 patients presented with varicocele of left side, 9 on both sides and only 1 case of right varicocele was found.

4-Semen analysis

49 patients in our series (81.7%) benefited from this examination before operative.

Table-3: Distribution according to spermogram abnormalities

	Group1	Group2
oligospermia	10	6
asthenospermia	19	10
teratozoospermia	8	6
necrospermia	6	4
azoospermia	1	1

5-Treatment

- Type of anesthesia

For group1

Open-air surgery was performed under: spinal anesthesia (RA). Laparoscopy was performed under general anesthesia.

For group-2

The embolization procedure was performed under 2% xylocaine local anesthesia in all patients.

- **Operative time**

For group1:The mean operating time for unilateral treatment was: 41.3 minutes.
For group 2:The mean duration of the operation for the unilateral treatment was: 26.5 minutes.
Comparing these times, the operative time in group 2 was shorter by compared to group 1: 26.5 min vs 41.3 min (p = 0.001).

- **Intra opérative complications**

For the surgery group: No intraoperative complications were observed. For the embolization group: All the patients were approached by the right femoral vein. A failure of embolization of a left varicocele has been noted, due to the presence of Continent ostial valves at the end of the spermatic vein, and 2 failures were due to venous spasms. No complications related to the femoral approach or the mode of anesthesia was not found.

- **Duration of hospitalization**

For group 1

Patients are generally admitted the day before or the day of the operation. The average length of hospital stay is 2.87 days on average [1-5].

For group 2

The average length of hospital stay is one day (24 hours). By comparing these results in the 2 groups, the length of hospitalization in group 2 is shorter compared to group 1: 1J vs 2.87J (p = 0.001).

- **Post operative follow-up**

For group 1: Three cases, or 10%, of postoperative hydrocele were noted.

These hydrocele cases were minimal and their resorption was spontaneous without having need no gesture. Healing of the incisions was achieved between 7-10 days. Surgery requires a 14-day recovery time for most patients and usually requires an additional week before resuming exercise. We noted the subsidence of varicose swelling in all patients (100%).

The time to return to work was on average: 14.23 days (10 - 21) d. For the 8 patients who initially presented with pain, we noted: The pain disappeared in 8 patients, it decreased in 2 patients, 2 patients did not feel any improvement in their pain, after reassessment at 3 month. It was not increased in any patient.

For group 2:10 patients, i.e. 33, 33%, presented with resolving inflammatory orchitis under analgesic and anti-inflammatory treatment. The recovery time is one to two days, including physical activity.

The time to return to work was on average: 1.2 days. We noted the subsidence of varicose swelling in 90% of patients. For the 14 patients who initially presented with pain, we noted: The pain disappeared in 8 patients, it decreased in 4 patients, however, it was increased in 1 patient and only 1 patient did not feel improvement in pain after reassessment at 3 months.

By comparing the time taken for resumption of activity, we notice that this resumption is faster in group 2 compared to group 1: 1.2 days vs. 14.23 days (p = 0.001).

- **Recurrence of the disease**

Varicocele recurrence was noted in 6 patients in our overall series. All these recurrences were unilateral left, of which 4 occurred in the group treated with surgery (13, 33%) and 2 cases (7.4%) in the group treated with embolization.

- **Fertility**

Semen analysis, before and after treatment, was obtained in 10 group 1 patients, and 11 patients after embolization. She showed a improved spermogram. However, we did not objectify statistically any improvement significant after treatment.

IV. DISCUSSION

The therapeutic techniques in the treatment of varicocele are numerous: open surgery, laparoscopy and percutaneous embolization. Both surgical and nonsurgical approaches to the treatment of varicocele have been described.

In the literature, few studies compare the different treatment techniques for varicocele in terms of complications, cost, morbidity, improved spermogram and pregnancy rate. Compared to other surgical techniques or laparoscopy, embolization.

Percutaneous has several advantages with fewer complications [4] and a recurrence rate that varies from 0 to 11% against a rate of 0 to 45% for surgery [5].

Studies analyzing the cost of treating varicocele have concluded that percutaneous sperm vein embolization costs less than laparoscopy[5-8].

This minimally invasive technique, performed on an outpatient basis, considerably reduces the time the patient spends in the hospital and also the time it takes to resume activity, dethroning laparoscopy.

Studies evaluating the interval between cure for varicocele and improvement in sperm parameters estimated that this change appears from the 3rd month and by the then there is a stabilization of the parameters [9, 10].

However, the effect of percutaneous embolization on fertility remains controversial due to the scarcity of data correlating the intervention with pregnancy problems.

V. CONCLUSION

The best treatment for varicocele is the one that causes less complications, while ensuring the best result. Opinions remain very contradictory. There is no therapeutic method ideal, without taking any risk on the vitality of the testicle, and offering a good result in almost 100% of cases. The simplest, least aggressive and cheapest gesture will have in the the next few years everyone's preference.

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