

RESEARCH ARTICLE

# Combined Treatment of Urological Conditions and Inguinal Hernia using the Desarda Technique

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## Abstract

**Objective :** To report the results of hernia treatment carried out according to the Desarda technique, in association with surgical management of low urological pathology, and to evaluate the benefits of this method in this context.

**Patients and Methods :** This was a descriptive study with prospective data collection, carried out in the urology and andrology department of the Brazzaville University Hospital Centre from January 2015 to December 2024. We included all patients over the age of 17 who consented to the study and were treated and/or monitored for a urological condition and operated on for uncomplicated inguinal hernia using Desarda's external oblique muscle aponeuroplasty technique. The data were collected and analysed using Excel 2020 software.

**Results :** During the study period, 67 patients were included. The mean age was 47.3 years, with extremes of 18 and 62 years. There were 66 men and one woman. The hernia was bilateral in eight patients, predominantly on the right side (29 cases). Three cases of superficial inguinal hernias were observed. The woman included had bladder lithiasis. The men had several pathologies. Associated urological procedures included bladder adenomectomies or prostatectomies (30 cases), high prostate adenomectomies combined with cystolithotomies (12 cases) and isolated cystolithotomies (5 cases).

**Conclusion :** Hernia cure according to the Desarda technique is a reliable, economical and safe alternative to prosthetic surgery for the management of inguinal hernias, particularly when combined with lower urological surgery.

**Keywords:** Urological Conditions, Inguinal Hernia, Desarda, Surgery, Brazzaville.

## 1. Introduction

Inguinal hernia is a common pathology whose surgical treatment aims primarily to reduce the recurrence rate and limit post-operative pain. Surgical techniques fall into two main groups: tension repair techniques (Bassini, MacVay, Shouldice) and tension-free techniques that rely on the use of synthetic prosthetic material, notably the Lichtenstein technique, currently considered the gold standard [1,2].

However, in developing countries, access to prostheses is often limited by their high cost and the risk of infection associated with their implantation in a less favourable health care context [3,4]. Furthermore, techniques without foreign materials, such as the aponeuroticplasty described by Desarda, use a flap of the aponeurosis of the external oblique muscle, thus offering a tension-free and prosthesis-free alternative with promising results in terms of recurrence and complications [5,6].

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In contexts where endoscopy is not always available, open surgery remains predominant, particularly in urology. The combination of inguinal hernia cure with low urological surgery may be necessary, but raises questions about the risk of infection, especially when urine culture reveals a urinary tract infection, contraindicating the use of prosthetic material [7].

The aim of this study is to report the results of hernia repair using the Desarda technique, in combination with surgical management of lower urological conditions, and to evaluate the advantages of this method in this context.

## 2. Patients and Methods

This was a descriptive study with prospective data collection, carried out in the urology and andrology department of the Brazzaville University Hospital from January 2015 to December 2024. We included all patients over the age of 17 who consented to the study and were treated and/or monitored for a urological condition and operated on for uncomplicated inguinal hernia using Desarda's external oblique muscle aponeuroplasty (AMOE) technique. Data collection was carried out at the Urology-Andrology Department of Brazzaville University Hospital and in two private clinics.

Desarda's technique consisted of anterior repair: an oblique or transverse inguinal incision (Benson's incision) of approximately 5 cm is made in the lower abdominal fold. The aponeurosis of the external oblique muscle is incised, allowing two lips to be identified: a medial lip and a lateral lip. The lower layer is separated from the cord. The cord is freed and mobilised 2 cm beyond the pubic spine. The funicular pedicle and the genital branch of the genitofemoral nerve are loaded with the cord as well as the genital branches of the ilioinguinal and iliohypogastric nerves. The fibro-cremasteric sheath is incised at its upper part. In the case of an indirect hernia, the sac was either pushed back or resected. In the case of a direct hernia, the sac is released beyond the neck and reintegrated without being ligated. The aponeurotic plasty began with a suture of the edge

of the medial lip of the aponeurosis of the rectus abdominis to the crural arch using separate stitches with non-absorbable monofilament USP 2/0 or 0 thread. The first two stitches were tied on the anterior sheath of the rectus abdominis muscle, the first resting on the pubic spine; the suture was continued as high as possible up to the deep inguinal orifice without strangulating the spermatic cord. An incision was then made on the sutured aponeurosis to obtain a 1 to 2 cm aponeurotic flap.

Next, the free edge of the aponeurotic flap was sutured to the internal oblique muscle at the level of the joint tendon using separate stitches with non-absorbable USP 2/0 or 0 monofilament suture. The aponeurotic closure was performed in the conventional manner, in front of the cord, using a running suture with USP 2/0 absorbable thread, joining the lateral lip of the aponeurosis of the internal oblique muscle with the new medial lip of the same aponeurosis.

Finally, we performed subcutaneous approximation and closure of the skin in the conventional manner.

Patients were followed up at 1, 3 and 6 months, then as needed. The average follow-up period was 27 months (range: 6 to 83 months).

The parameters studied were: associated urological pathology, type of anaesthesia, postoperative complications (acute and chronic pain assessed by VAS, recurrence, infections), length of hospitalisation.

The data were collected and analysed using Excel 2020 software.

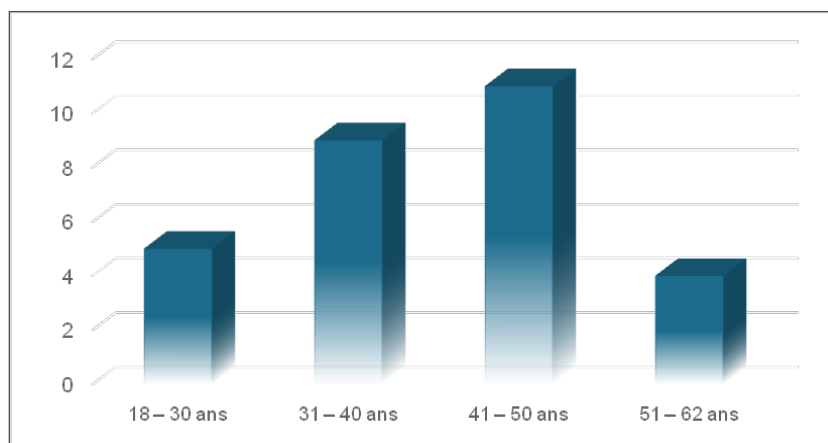
## 3. Results

During the study period, 67 patients were included. The mean age was 47.3 years, ranging from 18 to 62 years (Figure 1). There were 66 men and one woman. The hernia was bilateral in eight patients and predominantly right-sided in 29 cases. Three cases of superficial inguinal hernias (SIH) were observed. The female patient included had bladder stones. The male patients had several pathologies (Table 1).

Hernia repair was associated with urological surgery in 59 patients (Table 1).

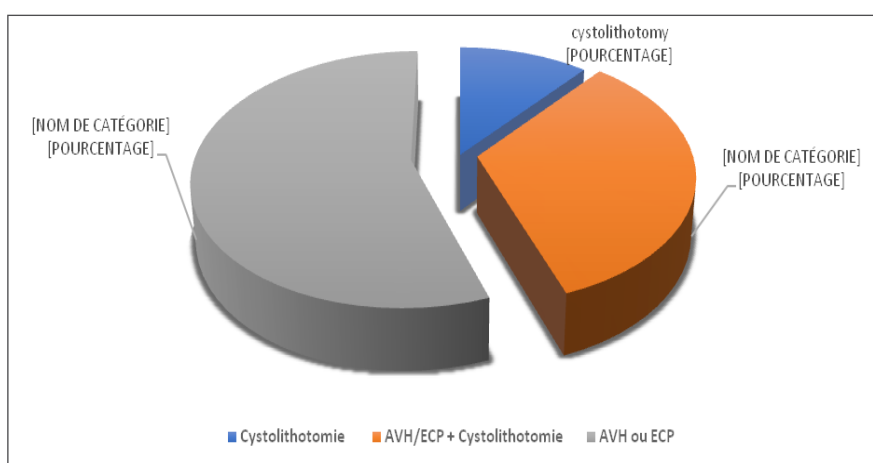
**Table 1.** Distribution of patients according to urological conditions

Conditions	Number	Percentage (%)
Vesico-prostatic conditions	47	79,66
Cryptorchidism	8	13,56
Varicoceles	4	6,78



**Figure 1.** Distribution of patients by age group

Associated urological procedures included bladder adenomectomy or prostatectomy (AVH or ECP, 30 cases), AVH combined with cystolithotomy (12 cases) and isolated cystolithotomy (5 cases) [Figure 2].



**Figure 2.** Bladder and/or prostate surgery associated with hernia repair

The average hospital stay was 6.5 days (range 1–14), prolonged mainly for bladder healing or in cases of infectious complications.

#### Post-operative outcomes

- Short and medium term: post-spinal anaesthesia headaches (3 cases), scrotal haematoma (2 cases), acute urinary retention (3 cases), parietal suppuration (14 cases), mainly after combined bladder/prostate surgery.
- Long term: no chronic pain, no hernia recurrence, no rejection or testicular atrophy.

### 3. Discussion

The Desarda technique for inguinal hernia repair is an interesting alternative to conventional prosthetic surgery, particularly in countries with limited resources [5,8].

The main advantage is the absence of foreign prosthetic material, which reduces the risk of infection, a crucial factor when surgery is combined with a urological procedure on a potentially contaminated field, or when

urine culture reveals a urinary tract infection [7,9]. In addition, this technique is considered a tension-free repair, contributing to better post-operative tolerance and reduced chronic pain, a problem frequently reported after prosthetic surgery [10].

Our results are consistent with those reported by Desarda et al. [5] and recent studies [6,11] showing low rates of recurrence and infectious complications, even in cases of associated surgery. The absence of chronic post-operative pain observed in our series is a major advantage, improving patients' post-operative quality of life.

However, this technique requires that the aponeurotic tissues are still strong and is not suitable for large hernias or thin tissues, a situation that is common in elderly patients [12].

The local socio-economic context, characterised by limited access to prostheses and an increased risk of infection, justifies the use of this method. Its low cost, absence of rejection and technical ease make it a suitable option, particularly in combination with urological surgery [3,4].

## 4. Conclusion

Herniari repair using the Desarda technique is a reliable, economical and safe alternative to prosthetic surgery for the management of inguinal hernias, particularly when combined with lower urological surgery. It allows for effective combined management, with low infectious morbidity, no chronic pain and an excellent medium-term success rate.

We are continuing this work with a larger sample size to refine the indications and confirm these promising results.

## Conflicts of Interest

The authors declare that they have no conflicts of interest.

## Authors' Contributions

All authors contributed to this article and have read and approved the final version of this manuscript.

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