SRYAHWA PUBLICATIONS

Open Journal of Surgery
ISSN: 2639-3611 | Volume 7, Issue 1, 2026
https://doi.org/10.22259/2639-3611.0701004

RESEARCH ARTICLE

Combined Treatment of Urological Conditions and Inguinal Herniausing the Desarda Technique

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Received: 02 April 2026 Accepted:17 April 2026 Published: 29 April 2026

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Abstract

Objective : To report the results of herniatreatment carried out according to the Desarda technique, in association withsurgical 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 fromJanuary 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 herniausing Desarda's external oblique muscle aponeuroplasty technique. The data were collected and analysed using Excel 2020 software.

Results : During the study period, 67 patients wereincluded. The meanage was 47.3 years, with extremes of 18 and 62 years. There were 66 men and one woman. The herniawasbilateral 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 bladderad enomectomies or prost atectomies (30 cases), high prostate adenomectomies combined with cystolithotomies (12 cases) and isolatedcystolithotomies (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 herniais a commonpathology 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 thatrely on the use of synthetic prosthetic material, notably the Lichtenstein technique, currentlyconsidered 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 lessfavourable 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].

Citation: R. B. Banga-Mouss, P. Elion Ossibi, A. M. Atipo-Ondongo, *et al.* Combined Treatment of Urological Conditions and Inguinal Herniausing the Desarda Technique. Open Journal of Surgery. 2026; 7(1): 28-31.

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

The aim of thisstudyis to report the results of herniarepairusing the Desarda technique, in combination withsurgical 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 weretreated and/or monitored for a urological condition and operated on for uncomplicated inguinal herniausing Desarda'sexternal 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 anteriorrepair: 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 isincised, allowing two lips to be identified:amediallip and a laterallip. The lower layer is separated from the cord. The cord is freed and mobilised 2 cm beyond the pubicspine. The funicularpedicle and the genital branch of the genitofemoral nerve are loadedwith the cord as well as the genital branches of the ilioinguinal and iliohypogastric nerves. The fibro-cremasterics heath 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 mediallip of the aponeurosis of the rectusab dominis to the crural archusing separatestitches with non-absorbable monofilament USP 2/0 or 0 thread. The first two stitches were tied on the anteriors heath of the rectusabdominis muscle, the first resting on the pubicspine; 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 suturedaponeurosis to obtain a 1 to 2 cm aponeurotic flap.

Next, the free edge of the aponeuroticflap was sutured to the internal oblique muscle at the level of the joint tendon using separatestitches 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 laterallip of the aponeurosis of the internal oblique muscle with the new medial lip of the samea poneurosis.

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

Patients werefollowed up at 1, 3 and 6 months, then as needed. The average follow-up periodwas 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 meanage was 47.3 years, ranging from 18 to 62 years (Figure 1). There were 66 men and one woman. The her niawasbilateral in eight patients and predominantly right-sidedin 29 cases. Three cases of superficial inguinal hernias (SIH) wereobserved. The female patient included had bladder stones. The male patients hadseveral pathologies (Table 1).

Herniarepair 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

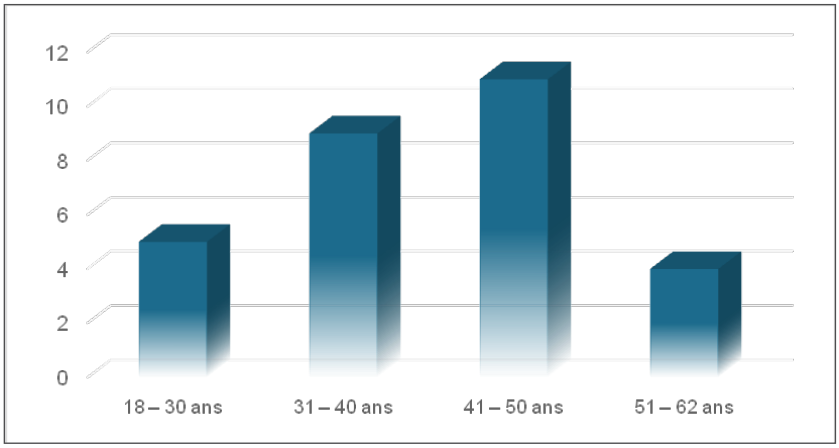

Figure1. *Distribution of patients by age group*

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].

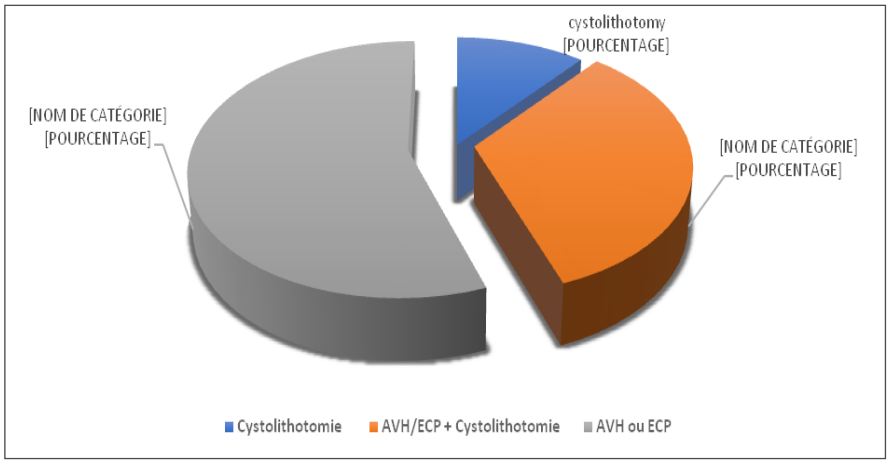

Figure 2. *Bladder and/or prostate surgeryassociatedwithherniarepair*

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

Post-operativeoutcomes

- 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 herniarecurrence, no rejection or testicularatrophy.

4. Discussion

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

The main advantageis 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 isconsidered a tension-free repair, contributing to better post operative to lerance 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 recentstudies [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 ourseriesis a major advantage, improving patients' post operative quality of life.

However, this technique requiresthat the aponeurotic tissues are stillstrong and is not suitable for large hernias or thin tissues, a situation thatiscommon 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 technicaleasemakeit a suitable option, particularly in combination with urological surgery [3,4].

5. Conclusion

Herniarepair using the Desarda technique is a reliable, economical and safe alternative to prostheticsurgery for the management of inguinal hernias, particularly when combined with lower urological surgery. It allows for effective combined management, withlowinfectiousmorbidity, no chronic pain and an excellent medium-termsuccess rate.

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

Conflicts of Interest

The authorsdeclarethatthey have no conflicts of interest.

Authors' Contributions

All authorscontributed to this article and have read and approved the final version of thismanuscript.

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