Scientific Research Publishing

Surgical Science, 2026, 17(2), 41-53
https://www.scirp.org/journal/ss
ISSN Online: 2157-9415
ISSN Print: 2157-9407

Classification, Management and Prognosis of Giant Inguinoscrotal Hernia in Rural Cameroon

Bwelle Motto Georges Roger[1,2], Boukar Ekani[3], Eric Savom[1,4], Tchientcheu Brice Tim[5,6], Myriam Makou[5], Menguele Onana Yvan Laurel[1], Marigot Donald Boye[1], Guy Aristide Bang[1,2], Arthur Essomba[1,5]

[1]Department of Surgery and Specialties, Faculty of Medicine and Biomedical Sciences, The University of Yaoundé 1, Yaoundé, Cameroon
[2]Department of Visceral and Digestive Surgery General Hospital Yaoundé, Yaoundé, Cameroon
[3]Department of General Surgery, Soa District Hospital Yaoundé 2, Yaoundé, Cameroon
[4]Department of Visceral and Digestive Surgery, Yaoundé Teaching Hospital, Yaoundé, Cameroon
[5]Department of Visceral and Digestive Surgery, Yaoundé Central Hospital, Yaoundé, Cameroon
[6]Faculty of Health Sciences, Bamenda, Cameroon
Email: gbwelle@gmail.com

How to cite this paper: Roger, B.M.G., Ekani, B., Savom, E., Tim, T.B., Makou, M., Laurel, M.O.Y., Boye, M.D., Bang, G.A. and Essomba, A. (2026) Classification, Management and Prognosis of Giant Inguinoscrotal Hernia in Rural Cameroon. *Surgical Science*, **17**, 41-53.
https://doi.org/10.4236/ss.2026.172004

Received: January 14, 2026
Accepted: February 24, 2026
Published: February 27, 2026

Abstract

Introduction: Giant inguinoscrotal hernias (GISH) have been defined as hernias that extend below the midpoint of the inner thigh when the patient is in the standing position. Its management represents a challenge due to the risk of developing abdominal compartment syndrome (ACS) or difficulties during the surgery. The large size and chronicity of the hernia, associated with modified properties of the abdominal wall, makes the management of these cases unique and interesting. There is no standard procedure for treatment of this condition as literature describes several treatment strategies. This study is set out to provide an efficient tool based on clinical assessment, for management of GISH in the rural areas of Cameroon. **Materials and methods**: We conducted a descriptive cross-sectional study in the ten regions of Cameroon within 13 years. Sampling included patients operated for GISH. The patients were recruited during ASCOVIME health campaigns and operated free in charge in a local health centre/district hospital. Postoperative follow up was done by the local team. Patients were followed up for at least 3 years following the surgery. Patients were classified such that: Type I had their sac reaching the mid-inner thigh; Type II with sac reaching a midline between the mid-thigh and the supra-patellar line; Type III with sac reaching the supra-patella; and Type IV with sac extending below the supra-patella or if associated to other hernias. **Results**: We included n = 93 cases with a male predominance; sex ratio 11: 1. The average age was 54.7 ± 1.1 (34 - 79) years. Majority of the participants were farmers 66% (n = 61). Those with Type II were the most frequent 48.3% (n = 45). The average length of evolution was 30.8 ± 0.7 years (14 - 50). More than half of the participants 88.7% (n

= 82) had reducible hernia predominantly Type I and II. Lichtenstein was the most practised technique 56.5% (n = 53). Bowel resection in 22.6% (n = 21) concerning all Type III and IV, who also all required blood transfusion. The main per operative complications were bowel injury in 9.7% (n = 9). We recorded a case fatality rate of 3.2% (n = 3) from ACS (Type IV) and perioperative bleeding (Type III). Scrotoplasty, when necessary, was postponed. **Conclusion**: GISH is a reality in our community. Treatment and prognosis greatly rely on the reducibility, and the dissection which can help prevent deadly complications associated to Type III and IV, as the chronicity and visceromegaly characterises them. This should enhance their reference to centres of higher categories for appropriate management.

Keywords

Giant Inguino-Scrotal Hernia, Rural Setting, Surgical Management, Classification

1. Introduction

Inguinal hernia is one of the most common surgical operations done world-wide accounting for 10% - 15% of all surgical procedures [1]. In Africa the incidence of inguinal hernia is estimated to be 175 per 100.000 people and only 40% are operated [2]. Giant inguinoscrotal hernias (GISH) have been defined as those that extend below the midpoint of the inner thigh when the patient is in the standing position or should display an anteroposterior diameter of at least 30 cm or a latero-lateral diameter of about 50 cm with non-reducibility for more than 10 years [3]. Its management represents a challenge due to the risk of developing ACS [4]. The large size and chronicity of the hernia, associated with deranged mechanical properties of the abdominal wall, makes the management of these cases unique and interesting [5]. In high-income countries, the diagnosis of inguinal hernia is usually made early, when the patient notices the development of swelling or groin pain [6]. Given the potential of hernia strangulation, surgical correction is often carried out without delay. Consequently, giant inguinoscrotal hernias have become extremely rare in Europe and Asia [7] [8] and are currently seen in clinical practice only after years or even decades of self-neglect [9]. There is no standard procedure for treatment of this condition and literature describes several treatment strategies and proposed classification systems amongst which the Trakarnsangna classification which is not well adapt for our conditions in rural area [10]. Other classification systems based on scannographic indices have been proposed but remain less accessible to resource limited settings [11]. Therefore, based on these realities, we thought interesting to review the classification systems so as to provide an efficient tool based on clinical assessment, for management of GISH in a resource limited area as the rural areas of Cameroon. This will help encourage upgrading of rural centres for management of some cases and to refer the more difficult cases to urban centres for a more secured management.

2. Materials and Methods

Study design and participants selection: A descriptive cross-sectional study was carried out for 13 years between January 2011 to August 2024 in rural areas in all the 10 regions of Cameroon. Surgical care was provided according to the categorisation of hospitals by the Ministry of Public Health At the central level, highly specialised care (medical and imaging) and research are provided, while at the intermediate level, specialised care is provided, particularly at the regional level. Finally, local and primary care are provided at the peripheral level.

We recruited patients operated for GISH during ASCOVIME (Association des Competences pour une Vie Meilleure) health campaigns. These patients were operated for free in the health centre or district hospital by a team including experts from ASCOVIME and health personnel of the local hospital. Follow up was assured by the local team. The short term follow-up was done for 30 days following the procedure and the long term follow up included evaluation at 6 months, 1 year and 3 years following surgery. We included all patients with GISH operated in these rural areas that consented in participating to the study and we exclude all patients with HTA, diabete and HIV or loss to follow up, patients with less than 3 years of follow up and patients with important comorbidities.

Operability was evaluated based on reducibility of the hernia which will enable to anticipate on:

- Possibility of immediate management with limited resources;
- Evaluation of potential risk of bleeding with need for transfusion given the level of dissection required;
- The necessity of bowel resection considering the volume of irreducible organs.
- We did not use the GONIMORINO technique.

Patients were grouped such that:

Type I: Sac reaches the mid-thigh or extends over the vulva in females (Figure 1).

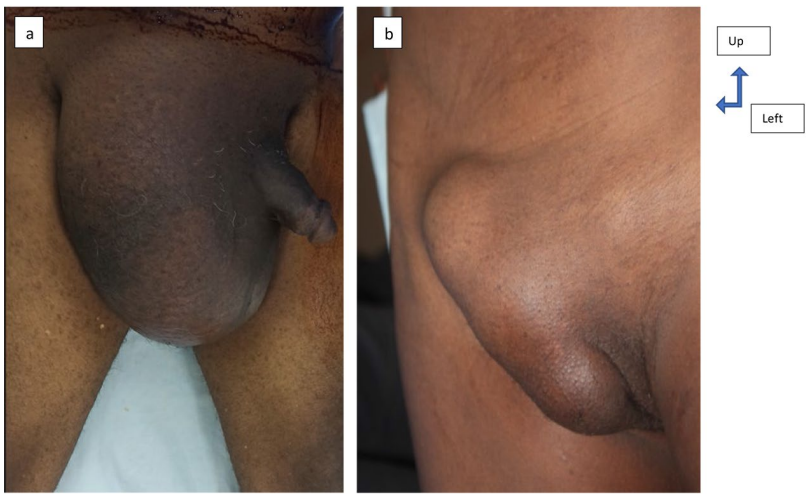

Figure 1. Type I a-giant inguinoscrotal hernia; b-giant inguino-labial hernia (sac passes the vulva) (*Pictures taken during ASCOVIME campaign with permission from the participants*).

Type II: sac is between two imaginary lines through the mid-thigh and through the supra-patella (Figure 2).

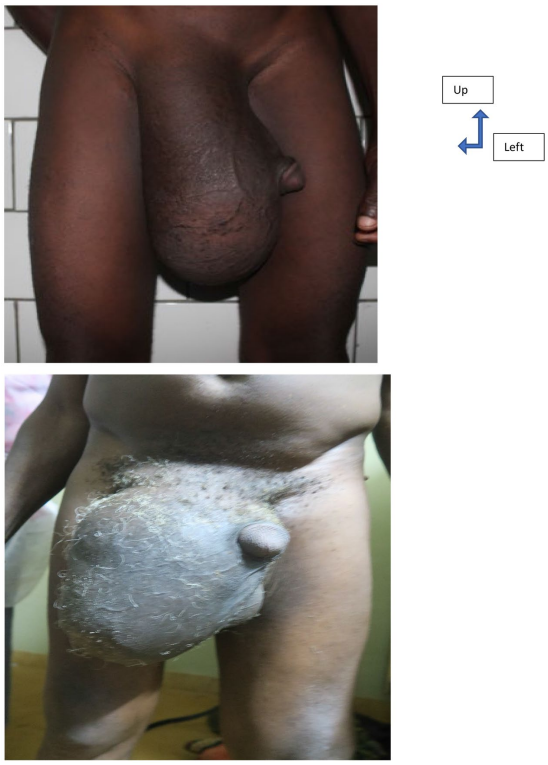

Figure 2. Type II giant inguinoscrotal hernia (*Pictures taken during ASCOVIME campaign with permission from the participants*).

Type III: sac reaches the supra-patellar line (Figure 3).

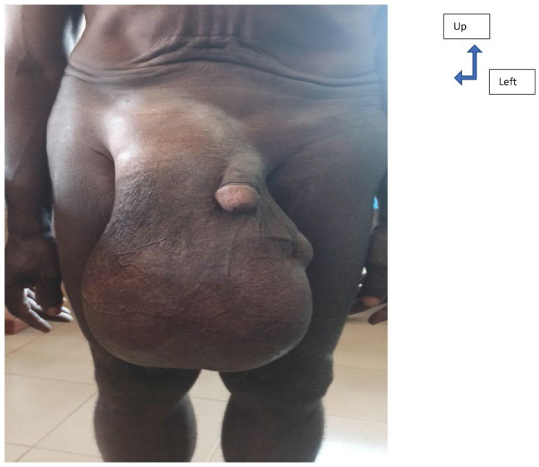

Figure 3. Type III giant inguinoscrotal hernia (*Pictures taken during ASCOVIME campaign with permission from the participants*).

Type IV: Sac passes over the supra-patellar line, or other types associated to another hernia (contro-lateral inguinal, femoral or umbilical) (Figure 4).

Figure 4. Type IV giant inguinoscrotal hernia. a-isolated form; b-associated to bilateral femoral hernias (*Pictures taken during ASCOVIME campaign with permission from the participants*).

3. Results

3.1. Participants Selection

During the 13 years period, 17,567 patients had surgical indications, out of which 90.4 % (n = 15,893) were actually operated. Abdominal wall hernias represented 61.4% (n = 9754) of the cases with 92% (8981) being groin hernias. There were 102 cases of giant inguinal scrotal hernias, representing 0.69% of inguinal hernias, of which 93 were operated on, representing 0.39% of surgical procedures (**Figure 5**).

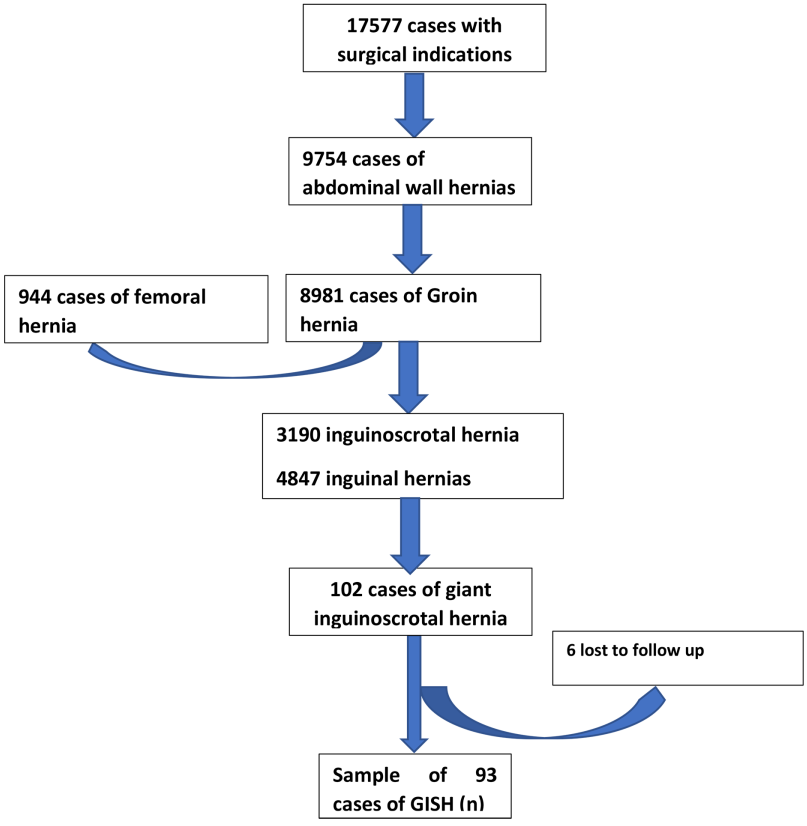

Figure 5. Flow diagram for sample selection.

3.2. Socio-Demographic and Clinical Parameters

The patients came from all over Cameroon with most of the patients coming from the East region 30.6% (n = 28). There was a male predominance of n = 86 males to n = 7 females, giving a sex ratio 11:1. The average age was 54.7 ± 1.1 years with a range of 34 - 79 years.

All the participants were from rural areas and were involved in physical activities as a source of livelihood, the majority 66% (n = 61) being farmers.

These hernias were classified using a classification system we proposed under methodology, as shown on the bar chart (Figure 6). Type II categories were the most frequent 48.3% (n = 45).

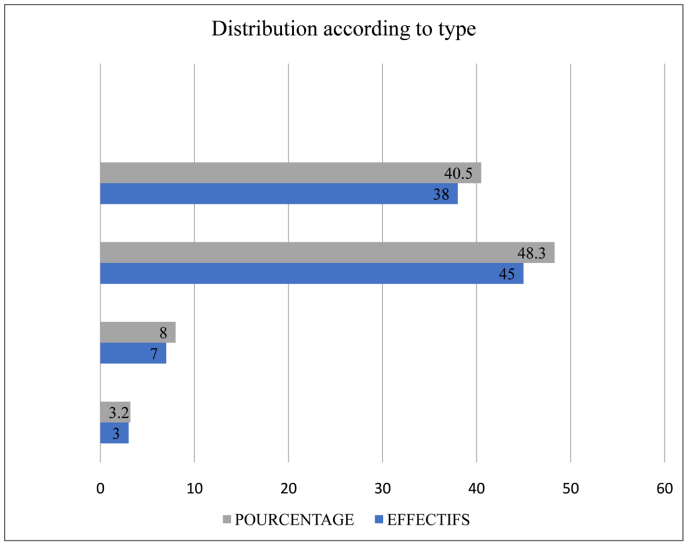

Figure 6. Bar chart showing the classification of the hernia into four different classes.

Congenital hernia was found in 6.4% (n = 6) participants of which all the 4 from Type IV, 01 from Type III and 01 from Type II.

Amongst those with acquired hernia, the average length of evolution was 30.8±0.7 years ranging between 14 and 50 years.

Cases of recurrences were in 20 participants with a variation in the time lapse since previous intervention being 5 to 27 years with an average of 16 ± 1.1 years.

More than half of our population 88.7% (n = 83) had hernia that was either spontaneously or manually reducible, all those of type I and type II (Table 1).

Table 1. Distribution of cases following reducibility of the sac.

Reducibility		
	Frequency (n = 93)	**Proportion (%)**
Spontaneous reduction	20	22
Complete manual reduction by personnel or patient	63	67.2
Incomplete manual reduction by personnel or patient	06	6.5
More than 1/2 of the sac remaining despite reduction	04	4.3

3.3. Management

3.3.1. Anesthesia

According to the physical status scale of American Society of Anaesthesiologists (ASA class) majority of the patients were class I and II; 29.0% (n = 27) patients had ASA class I, 45.2% (n = 42) patients had ASA class II.

3.3.2. Type of Anesthesia

The main type of anesthesia used was spinal in 58% (n = 54) of the participants, local anesthesia in 3% (n = 3), and general anesthesia in 39% (n = 36) of the participants whereas in 18% (n = 17) of the participants there was conversion from locoregional to general anesthesia.

3.3.3. Surgery

The approach was anterior approach by an incision in the groin in the lower abdominal fold in all the patients.

Findings in the majority of cases were a fused spermatic cord 83.9% (n = 78) with an oedematous omentum 77.4% (n = 72). Orchidectomy was performed in 30.6% (n = 29) of the population.

We did not use any abdominal cavity expansion techniques during our study (**Figure 7**).

Figure 7. GISH with bottom of sac reaching the supra-patellar line before and during surgery (*Pictures taken during ASCOVIME campaign with permission from the participants*).

Shouldice repair was done in 37% (n = 34) of the participants and Lichtenstein was done in 56.5% (n = 53) of the participants.

The Shouldice technique was used after intestinal resection in 22.6% (n = 21) of cases, including 8 segmental resections of the small intestine and 6 colectomies as a waiting treatment. A scrotal drain was used in 2 cases; a compressive bandage was left in place for all the other cases (**Table 2**).

Table 2. Findings and content of the sac during giant inguinoscrotal hernia repair.

Description	Frequency (n = 93)	Percentage (%)
Associated procedures		
Omentectomy	24	25.9
Segmental bowel resection	16	17.4
Right colectomy	13	14
Orchidectomy	29	30.8
Contralateral hernia repair	11	11.9
Technique of repair		
Shouldice	35	37
Bassini	06	6.4
lichtenstein	53	56.5
Shouldice then Lichtenstein	27	29

3.4. Prognosis

Morbidity: The main per operative complications were haemorrhage, due to the laborious dissection in 42% (n = 39) of the cases followed by bowel injury in 9.7% (n = 9) of the cases and bladder injury in 1.6% (n = 2) of the cases.

We recorded only 3.2% (n = 3) cases of abdominal compartment syndrome; known to be the most dangerous complication in giant hernia surgery.

Pain occurred in a short run in 29% (n = 27) patients and persisted only in 9.7% (n = 9) patients after follow up.

We equally had 24.2% (n = 23) cases of seroma and 3.2% (n = 3) cases of surgical site infection. Urinary retention occurred in 25.8% (n = 24) patients resolved spontaneously after a one-time transurethral catheterization (Table 3).

There was no case of recurrence after 3 years.

Table 3. Evaluation of short- and long-term outcome after surgery.

Description	Frequency (n = 93)	Percentage (%)
Per-operative complications		
Bladder injury	02	1.6
Small bowel injury	09	9.7
Haemorrhage	39	42
30 – days post-operative complications		
Pain	27	29
Abdominal compartment syndrome	03	3.2
Urine retention	24	25.8
Seroma	23	24.2
Surgical site infection	03	3.2
Death	03	3.2

Continued

Long term complications (3 years)		
Recurrence	00	00
Chronic Pain	09	9.7
Testicular atrophy	11	11.3

We recorded **a Case fatality rate (CFR) of 3.2%,** the **two cases of death** in the post-operative period from abdominal compartment syndrome (Type IV) and perioperative bleeding (Type III) (Table 4).

Table 4. General summary of our outcomes according to the type of hernia found.

Type	Reducibility (spontaneous or manual)	Bowel resection	Need for blood transfusion	Short term complication (30 days)	Cases of death
I (n = 38)	38 (100%)	-	-	18(48%)	-
II (n = 45)	45 (100%)	15 (23.3%)	05 (10%)	12 (33.3%)	-
III (n = 7)	**-**	**08 (100%)**	**08 (100%)**	**06 (80%)**	**02 (20%)**
IV (n = 3)	**-**	**03 (100%)**	**03 (100%)**	**02 (50%)**	**02 (50%)**
Total (n = 93)	83 (88.7%)	21 (22.6%)	15 (16.1%)	39 (42%)	03 (3.2%)

4. Discussion

Inguinal hernia is a public health problem in Africa as a whole and in Cameroon in particular [3]. However, a few cases of GISH have been reported in Cameroon, proof of their existence in our community [12]. The 93 cases of giant inguinoscrotal hernia were included in the study over the 13 years period giving an average of 8-9 cases of GISH in a year.

There was a male predominance of 86 males to 7 females, giving a sex ratio 11:1, similar to most studies [11].

The mean age in our study was **54.7 ± 1.1** years with a range of **34 - 79 years** appears closer to studies done on a series of 103 in Sierra Leone and Ivory Coast (46 and 48.5 years respectively) [13] [14]. This could be due to the fact that the rural population is aging as the youths move to the cities searching for greener pastures.

All the participants were from rural areas and were involved in physical activities as a source of livelihood, the majority **66% (n = 61)** being farmers. Therefore, Giant inguinoscrotal hernia affected mainly the illiterate manual laborers. This is similar to Lebeau *et al*. in Ivory Coast [14]; Abdalla *et al*. identified long standing heavy weight bearing as risk factor 59.2% (n = 55) (of all risk factors) [13].

Type II categories were the most frequent 48.3% (n = 45). This is contrary to the results from Sierra Leone where the majority of participants presented with sacs extending below knee level (corresponding to Type IV in our study) [13], probably because they had a larger population size.

More than half of our population 88.7% (n = 83) had hernia that was either

spontaneously or manually reducible, same as in west Africa [14] [15]. This especially as Type I and II predominated in all populations. Reducibility was considered a major criterion for surgery with limited resources as it emplies none or loose adhesions thus reducing the risks of complications associated with difficult dissection like orchidectomy and bleeding.

Findings in the majority of cases were a fused spermatic cord 83.9% (n = 78) with an edematous omentum 77.4% (n = 72). This is due to portal venous stasis often associated, causing mesenteric and bowel wall edema, swelling the contents of the hernia sac making reduction even more challenging [16].

Orchidectomy was performed in half of the population 51.6% (n = 48). This is due to the fact that the long standing hernia has prompted fusion of the sac to the cord which generally makes dissection difficult hence condemning the spermatic cord to inevitable section to prevent unexpected complications [10].

The content of the sac was the omentum, caecum and small bowel in the majority of cases which is similar to Lebeau *et al.* [14]. Bowel resection and anastomosis was done in 22.7% (n = 21) patients, of which 8 small bowel segmental resection and 6 colectomies. This was generally because of edematous bowel, and loss of domain respectively which made reduction difficult and in some cases there was injury to the bowel (6 cases) in the strive to reduce the hernia content [16].

Shouldice repair was done in 37% (n = 34) of the participants and Lichtenstein was done in 56.5% (n = 53) of the participants. This is with respect to the European Hernia Society (EHS) recommendations which advocates for Mesh repair as best choice or a Shouldice repair in case mesh is unavailable [17]. This is in contrast with most studies in West Africa where a modified Bassini technique was preferred sometimes with "Darning" [11] [15].

A compressive scrotal bandage was used in 96.8% (n = 90) cases, this was to avoid seroma or hematoma formation given the extensive dissection usually required. The compressive bandage prevents hematoma formation by realizing appropriate hemostasis which is not the case with drainage used by some authors [18].

We recorded only 3.2% (n = 3) of abdominal compartment syndrome; known to be the most dangerous complication in giant hernia surgery [10] probably because a majority of our participants had reducible hernias.

We equally had 24.2% (n = 23) cases of seroma and 3.2% (n = 3) cases of surgical site infection. These results are similar to Lebeau *et al.* in Ivory Coast, who reported 9.52% (n = 9) of seroma but rather had 57.14% (n = 53) of scrotal hematoma which was not reported in our study [14]. This was probably facilitated by the compressive scrotal bandages which were used post-operatively.

Pain occurred in a short run in 29% (n = 27) patients and became chronic only in 9.7% (n = 9) patients after 3 years follow up. Pain is usually related to nerve trauma or compression during the surgical repair [19].

We recorded a Case fatality rate (CFR) of 3.2% (n = 3) cases, the three cases of death in the post-operative period from abdominal compartment syndrome and

perioperative bleeding. This is comparable to a meta-analysis made in 2023 which recorded 4 cases of death out of the 9 studies involved [11].

There was no case of recurrence after 3 years similar to Ivory coast after 29.19 months follow up [14].

Following these results, the limits of the various classification systems can be outlined. The classification proposed by Trakarsagna in 2014 is limited in the fact that it requires sophisticated tool for preparation such as preoperative abdominal volume increase procedures, especially for Type III [10]. In the same line, Oyewale modified this by including the use of Scannographic indices (Tanaka Index) to predict and anticipate on the risk of compartment syndrome, we did not use any abdominal cavity expansion techniques during our study in particular the GONI-MORINO technique, due to the one-off nature of surgical treatment [11]. These tools are out of reach for these patients in the rural areas. Therefore, based on these realities, we thought interesting to review the classification systems so as to provide an efficient tool based on clinical assessment, for management of GISH in a resource limited milieu as the rural areas of Cameroon. This proposed classification based on our results will help predict on outcome, so as to encourage upgrading of rural centres for management of some cases and to refer the more difficult cases to urban centres for a more secured management (**Table 5**). We therefore suggest that.

Table 5. Our proposed Classification for GISH.

Type	Description	Peculiarity	Management
I	sac reaches the mid-thigh	Spontaneously or Manually reducible by patient	Can be operated with limited resources
II	Sac is between two imaginary lines through the mid-thigh and through the supra-patella.	Spontaneously or Manually reducible by patient	Can be operated with limited resources
III	Sac reaches the supra-patellar line.	Reducible	Can be operated with limited resources
		Irreducible	Referral is advisable
IV	Sac passes over the supra-patellar line, or other types associated to another hernia (contro-lateral inguinal, femoral or umbilical).	Irreducible with higher risks of a compartment syndrome	Referral is advisable

5. Conclusion

Giant inguino-scrotal hernia is a reality in our community. It is frequent in rural areas where populations are involved mostly in land ploughing activities. The treatment of this condition is surgical. It greatly relies on the reducibility, and the dissection which can help prevent deadly complications like abdominal compartment syndrome, orchidectomy and bleeding associated to Type III and IV as the chronicity and visceromegaly characterises them. This should enhance reference of such cases to centres of higher categories for appropriate management.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

[1] Primatesta, P. and Goldacre, M.J. (1996) Inguinal Hernia Repair: Incidence of Elective and Emergency Surgery, Readmission and Mortality. *International Journal of Epidemiology*, **25**, 835-839. https://doi.org/10.1093/ije/25.4.835

[2] Nordberg, E.M. (1984) Incidence and Estimated Need of Caesarean Section, Inguinal Hernia Repair, and Operation for Strangulated Hernia in Rural Africa. *BMJ*, **289**, 92-93. https://doi.org/10.1136/bmj.289.6437.92

[3] Prochotsky, A., Dolak, S., Minarovjech, V., Medzo, I., Hutan, M. and Mifkovic, A. (2017) Giant Inguinoscrotal Hernia Repair. *Bratislava Medical Journal*, **118**, 472-478. https://doi.org/10.4149/bll_2017_091

[4] López Sanclemente, M.C., Robres, J., López Cano, M., Barri, J., Lozoya, R., López, S., *et al*. (2013) Progressive Preoperative Pneumoperitoneum in Patients with Giant Hernias of the Abdominal Wall. *Cirugía Española* (*English Edition*), **91**, 444-449. https://doi.org/10.1016/j.cireng.2012.08.001

[5] Misseldine, A., Kircher, C. and Shebrain, S. (2020) Repair of a Giant Inguinal Hernia. *Cureus*, **12**, e12327. https://doi.org/10.7759/cureus.12327

[6] Dönmez, A.E., Goswami, A.G., Raheja, A., Bhadani, A., El Kady, A.E.S., Alniemi, A., *et al*. (2024) Access to and Quality of Elective Care: A Prospective Cohort Study Using Hernia Surgery as a Tracer Condition in 83 Countries. *The Lancet Global Health*, **12**, e1094-e1103.

[7] Rivas-Treviño, A., Silva-Mendoza, C.A., Magallanes-del-Río, A.S. and Vázquez-Alaniz, F. (2022) Giant Inguinal Hernia Repair with Loss of Dominance. *Cirujano General*, **44**, 197-201. https://doi.org/10.35366/109895

[8] Sani, I., Chen, Y.C., Balasubbiah, N., Zakaria, Z. and Syed, H. (2017) Giant Inguinoscrotal Hernia: The Challenging Surgical Repair and Postoperative Management. *International Journal of Dual Diagnosis*, **2**, 18-21.

[9] Tarchouli, M., Ratbi, M., Bouzroud, M., Aitidir, B., Ait-Ali, A., Bounaim, A., *et al*. (2015) Giant Inguinoscrotal Hernia Containing Intestinal Segments and Urinary Bladder Successfully Repaired by Simple Hernioplasty Technique: A Case Report. *Journal of Medical Case Reports*, **9**, Article No. 276. https://doi.org/10.1186/s13256-015-0759-5

[10] Trakarnsagna, A., Chinswangwatanakul, V., Methasate, A., Swangsri, J., Phalanusitthepha, C., Parakonthun, T., *et al*. (2014) Giant Inguinal Hernia: Report of a Case and Reviews of Surgical Techniques. *International Journal of Surgery Case Reports*, **5**, 868-872. https://doi.org/10.1016/j.ijscr.2014.10.042

[11] Oyewale, S.O. and Ariwoola, A.O. (2023) Outcomes in the Surgical Management of Giant Inguinal Hernias: A Systematic Review. *International Journal of Abdominal Wall and Hernia Surgery*, **6**, 6-13. https://doi.org/10.4103/ijawhs.ijawhs_4_23

[12] Vas, N.M., *et al*. (2021) Irreductible Giant Inguinoscrotal Hernia with Bowel Contents Assimilated to a Sliding Hernia: A Case Report. *Stechnolock Journal of Case Reports*, **2**, 1-8.

[13] Abdalla, G., Taha, S., *et al*. (2018) Huge Inguinal Hernia in Underserved Areas: An Oblivion Problem. *Austin Internal Medicine*, **3**, 1040.

[14] Lebeau, R., Anzoua, K.I., Traoré, M., Kalou, I., N'Dri, A.B., Kakou, A.G., *et al*. (1970)

Management of Giant Inguinoscrotal Hernia in Resource Limiting Setting. *Journal of Gastroenterology & Digestive Systems*, **6**, 1-5.

[15] Osifo, O. and Amusan, T.I. (2010) Outcomes of Giant Inguinoscrotal Hernia Repair with Local Lidocaine Anesthesia. *Saudi Medical Journal*, **31**, 53-58.

[16] Valezi, A.C., de Melo, B.G.F., Marson, A.C., Liberatti, M. and Lopes, A.G. (2018) Preoperative Progressive Pneumoperitoneum in Obese Patients with Loss of Domain Hernias. *Surgery for Obesity and Related Diseases*, **14**, 138-142. https://doi.org/10.1016/j.soard.2017.10.009

[17] The HerniaSurge Group (2018) International Guidelines for Groin Hernia Management. *Hernia*, **22**, 1-165. https://doi.org/10.1007/s10029-017-1668-x

[18] Kovachev, L.S., Paul, A.P., Chowdhary, P., Choudhary, P. and Filipov, E.T. (2009) Regarding Extremely Large Inguinal Hernias with a Contribution of Two Cases. *Hernia*, **14**, 193-197. https://doi.org/10.1007/s10029-009-0517-y

[19] O'Connell, P.R., McCaskie, A.W. and Sayers, R.D. (2022) Bailey & Love's Short Practice of Surgery. 28th Edition, CRC Press, 1696 p. https://doi.org/10.1201/9781003106852