Scientific Research Publishing

Open Journal of Urology, 2023, 13, 337-344
https://www.scirp.org/journal/oju
ISSN Online: 2160-5629
ISSN Print: 2160-5440

Vaginal Cystocele Cure at Bouake University Hospital (Chu): Anatomical and Functional Results

Kouassi Patrice Avion[1*], Nykan Anne Felicite Kramo[2], N'diamoi Akassimadou[2], Freddy Zouan[1], Venance Alloka[1], Sadia Kamara[1], Koffi Dje[1]

[1]Urology Department, Bouaké University Hospital (CHU), Bouaké, Ivory Coast
[2]Urology Department, Ccody University Hospital (CHU), Abidjan, Ivory Coast

Email: *avionkouassi@yahoo.fr, Felicite.moke@gmail.com, n'diamoi74@yahoo.fr, donbricofr@gmail.com, docteurzouan@gmail.com, venancedagotchaka@gmail.com, docteur.ben.sadia.93@gmail.com, djekoffi1958@gmail.com

How to cite this paper: Avion, K.P., Kramo, N.A.F., Akassimadou, N., Zouan, F., Alloka, V., Kamara, S. and Dje, K. (2023) Vaginal Cystocele Cure at Bouake University Hospital (Chu): Anatomical and Functional Results. *Open Journal of Urology*, **13**, 337-344.
https://doi.org/10.4236/oju.2023.139038

Received: June 23, 2023
Accepted: September 4, 2023
Published: September 7, 2023

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Abstract

Background: Cystocele is an anatomical form of pelvic organ prolapse. It involves herniation of the bladder through the anterior wall of the vagina. **Objectives:** To report the anatomical and functional results of vaginal cure of cystocele in five cases. **Patients and methods:** A cross-sectional descriptive study of five patients presenting with a cystocele between January 2021 and December 2022 at the Urology Department of the Bouaké University Hospital (Côte d'Ivoire). All patients underwent vaginal cure of cystocele. The results of the operation were assessed on the basis of judgment criteria. The parameters studied were: age, marital status, profession, history, reason for consultation and outcome of the operation. **Results:** During the study period, five patients underwent vaginal cystocele surgery. The mean age was 46.6 years with extremes of 32 and 63 years. Three patients were married. All patients had a history of obstructed labour due to fetal macrosomia. 4 patients had grade II cystocele and one patient had grade III cystocele. All patients underwent anterior colpo-perineorrhaphy. The average operating time was 56 minutes (45 - 65 minutes). There was no morbidity. The average hospital stay was 3.6 days. The average duration of the urinary catheter was 2.2 days. At three months post-op, 4 patients had a good anatomical and functional result with a very good degree of satisfaction, compared with one patient who was moderately satisfied and had an average anatomical and functional result. At six months, all five patients had a good anatomical and functional result with a very good degree of satisfaction. **Conclusion**: Cure of cystoceles by the vaginal route is a technique that offers several advantages, especially the significant reduction in patient morbidity. Its anatomical and functional results demonstrate its reliability.

Keywords

Cystocele, Colpo-Perineorrhaphy, Genital Prolapse

1. Introduction

Cystocele is a hernia of the anatomical form of pelvic-genital prolapse, defined as: bladder through the anterior wall of the vagina [1]. This hernia reflects the failure of the support and suspension systems of the female pelvic organs [1] [2]. It is a truly functional pathology, resulting in a loss of confidence in the woman, a feeling of being less attractive physically and sexually, and an altered self-image [3]. Its clinical expression can be summed up as dysuria, urinary incontinence, pollakiuria, sexual problems, discomfort and a feeling of organ loss. The treatment of cystocele involves two groups of surgical techniques which differ in their approach. The upper approach involves promontory fixation and the vaginal approach, which offers the choice of autologous or prosthetic surgery [4]. This study finds its originality insofar as this way of approach is not in our current practice. Also we wish to draw the attention of the urologists of the Ivory Coast and those elsewhere of the interest and especially the elegance for both the patient and the surgeon. We report the results of the cure of cystocele by the vaginal route in 5 cases at the University Hospital of Bouaké.

2. Patients and Methods

2.1. Study Design and Approval

After obtaining approval from the ethics committee of the university hospital of Bouaké (Côte d'Ivoire). We conducted a descriptive cross-sectional study of five patients presenting with cystocele between January 2021 and December 2021, *i.e.* one year in the Urology Department of the Bouaké University Hospital.

2.2. Inclusion and Non-Inclusion Criteria

All patients with cystocele and having been operated vaginally were included in the present series. Patients with cystocele operated by high approach or by prosthesis were excluded from our series. The diagnosis of cystocele was made on the basis of clinical examination and confirmed by UCR retrograde urethrocystography. Patients underwent vaginal cure of cystocele. All vaginal cystocele cure were performed after a preoperative work-up including blood count, partial thromboplastin time (PTT), prothrombin rate (PRT), uremia, creatinemia, blood grouping and electrocardiogram. All patients underwent a pre-anaesthetic consultation to determine the route of anaesthesie. The procedure consisted of anterior colpo-perineorrhaphy, which involved a median vaginal incision, vesico-vaginal cleavage, resection of the excess vaginal wall (anterior colpectomy) and suturing of the anterior vaginal wall to the midline. Data were collected using a survey form containing the parameters studied. Data were entered using

Word software. Epi-info 7 software was used to analyse the data. The following parameters were studied. The results of the cystocele cure were evaluated on the basis of the following judgement criteria:

2.3. Anatomical Results

- **Good:** if there is a reduction in all the elements of the cystocele after the operation.
- **Fair:** if recurrence of one element of the cystocele (slight unrolling of the vaginal walls on exertion).
- **Bad:** if cystocele recurs.

➢ **Functional results**

- **Good:** absence of functional signs, no complaints.
- **Fair:** improvement in functional complaint (minor urinary problems).
- **Bad:** no improvement in complaint.

➢ **Level of patient satisfaction**

- Very satisfied: no complaints.
- Fairly satisfied: functional complaint.
- Not satisfied: no relief of complaints after vaginal cure of cystocele.

The parameters studied were:

- Age, marital status, profession, previous surgical history and results after the operation (duration of the operation, hospital stay, complications, post-operation). Anatomical result, functional result and patient satisfaction were assessed at 3 and 6 months post colpo perineorrhaphy.

3. Results

3.1. Socio-Demographic Characteristics

- **Age**

The mean age of our patients was 46.6 years, with extremes of 32 and 63 years.

- **Marital status**

3/5 patients were married.

1/5 patients were widowed.

1/5 were single.

- **Profession**

All the patients in our series were housewives.

3.2. Clinical Characteristics

- **Reason for consultation**

4/5 consulted for swelling.

1/5 consulted for pollakiuria.

- **History: aetiology**

4/5 patients had a history of obstructed labour due to foetal macrosomia and multiparous women.

1/5 patients were menopausal.

- **Physical signs**

4 patients had vaginal swelling and vulval swelling on physical examination.

- **Grade of cystocele**

The majority of patients (4/5) presented with a grade II cystocele. Grade III was observed in one patient.

3.3. Treatment

- **Type of surgery**

4 patients underwent anterior colpo perineorrhaphy. This was combined with a posterior plasty in one patient (Table 1).

- **Average operative time**

The average duration was 56.2 minutes (45 - 65 min).

- **Complications**

No complications were observed in our study.

- **Length of hospital stay**

The patients' hospital stay was 3.6 days, with extremes of 3 and 4 days.

- **Urinary catheterisation time**

The average duration of the urinary catheter was 2.2 days, ranging from 1 to 3 days.

3.4. Treatment Results

- **Results at 3 months**

At 3 months, 4/5 patients had a good anatomical and functional result. 4/5 patients were very satisfied after the operation, while one patient had an average result and was moderately satisfied (Table 2).

- **Results at 6 months**

At 6 months, all our patients had a good anatomical and functional result. They were all satisfied after the operation (Table 3).

Table 1. Overview of patients.

N°	AGE in (Years)	Marital Status	Occupation	Reason for Consultation	History	Physical Signs	Grade of cystocele	Duration of Operation (in Minutes)	Complications	Length of hospital stay (Days)	Bladder catheterization time (Days)
1	32	Married	Housewife	Pollakiuria	Dystocial childbirth	Vaginal swelling	Grade II	45	00	3	2
2	45	Married	Housewife	Vaginal swelling	Dystocial childbirth	Vulval Swelling	Grade II	56	00	4	2
3	63	Married	Housewife	Vaginal swelling	Dystocial childbirth	Vaginal swelling	Grade III	58	00	3	3
4	46	Divorced	Housewife	Vaginal swelling	Dystocial childbirth	Vaginal swelling	Grade II	65	00	4	1
5	47	Single	Housewife	Vaginal swelling	Menopause	Vaginal swelling	Grade II	57	00	4	3

Table 2. Distribution of patients according to result at 3 months' follow-up.

Results in 3 months	Numbers	Frequency
Anatomical Results		
Good	4	4/5
Fair	1	1/5
Bad	0	
Operational Results		
Good	4	4/5
Fair	1	1/5
Bad	0	
Patient Satisfaction Level		
Very satisfied	4	4/5
Fairly satisfied	1	1/5
Not satisfied	0	

Table 3. Distribution of patients according to result at 6 months' follow-up.

Results in 3 months	Numbers	Frequency
Anatomical Results		
Good	5/5	5/5
Fair	0	0
Bad	0	0
Operational Results		
Good	5/5	5/5
Fair	0	
Bad	0	
Patient Satisfaction Level		
Very satisfied	5	5/5
Fairly satisfied	0	
Not satisfied	0	

4. Discussion

Cystocele can affect women of all ages. However, physiological ageing and the menopause are considered to be major factors associated with genital prolapse in general and cystocele in particular [5] [6]. In their respective studies, Cosson, Bader and Jin Long reported a mean age of 69, 63 and 61.7 years [5] [6] [7]. In our study, the mean age of patients was 46 years, with extremes of 32 and 63 years. This result is similar to that of Diabaté in Senegal and Coulibaly in Mali,

who reported an average age of 42 and 48 years respectively [4] [8]. Our result could be explained by the social demographic factors in our country (dystocial delivery, early childbearing and multiparity). Vaginal swelling (4/5) was the most common reason for consultation in our study, with stress urinary incontinence the most common [8] [9] [10]. Our result could be explained by the long evolution of cystocele, which accounts for the delay in consultation by patients. Cystocele is an anatomical form of pelviogenital prolapse in which the anterior wall of the vagina is herniated as a result of varying degrees of failure of the pelvioperineal support structures. The literature describes congenital risk factors, multiparity, dystocial delivery and trophic changes during the menopause [4] [8] [9] [10]. In our study, 4 patients had a history of dystocial delivery for fetal macrosomia and one patient was postmenopausal. We can explain the occurrence of cystoceles in our patients by ligament elongation on the one hand and muscle tear on the other during vaginal delivery of macrosomia. The clinical and physical symptoms of cystocele are well known in the literature. In our study, 4 patients presented with vaginal swelling and another with vulvar swelling. Cystocele was classified grade II in 4 patients and grade III in one patient. This finding could be explained by the delay in consultation. From a therapeutic point of view, the surgical treatment of cystocele involves several techniques which differ in their approach [4]. We have the upper approach via promontory fixation and the vaginal or lower approach with several variations. These are anterior perineal plasty or anterior colpo-perineorrhaphy by support [5], *i.e.* re-tensioning of Halban's fascia, support, suture of the entire fascia or vagina in a paletot, paletot suspended from the tendon arches, "paravaginal repair" or para-vaginal suspension, bladder support by prosthesis or Campbell's device [11] [12] [13] [14]. In our study, anterior colpo perineorrhaphy was combined with a posterior plasty in one patient. This variant of vaginal cystocele cure was used because it is more controlled and is customary in our practice. A review of the literature shows that vaginal surgery is often associated with complications, most commonly haemorrhage and iatrogenic rectal and bladder lesions [6] [7] [9] [15] [16]. In our study, there was no morbidity. This absence of perioperative complications demonstrates the surgeon's good mastery of the surgical technique. The average length of hospital stay was 36 days and the average length of time the bladder catheter was inserted was 2.2 days. Our results corroborate those reported in the literature [4] [9] [10]. These different results show that vaginal cure of cystocele offers a reduction in the length of hospital stay and a short period for wearing the urinary catheter. Evaluation of the results of our surgical treatment after three months showed that four out of five patients had a good functional anatomical result and a good degree of satisfaction. Our results are similar to those of Diabaté in Mali [4], who reported 53.85% good anatomical results and 46.15% functional results, compared with 46.15% average anatomical results and 53.85% functional results. All patients were reviewed after 6 months. The evaluation showed a good anatomical and functional result and a good degree of satisfaction in all five patients. The strength of our study lies in its rigorous methodolo-

gy, the first to our knowledge to be carried out in Bouaké in central Côte d'Ivoire. However, it does have its limitations. It is a cross-sectional and descriptive study, and the results therefore merit external validation with a larger, independent sample. It would be useful for future studies with a more significant sample to be carried out in order to assess the substance of our results. However, we believe that these results are clinically relevant because of their strong characterisation in a real-life context.

5. Conclusion

This study shows that cystocele is pathology of young women. The main cause is dystocial delivery. The diagnosis is most often made late, usually grade II. In view of our results, vaginal cure of cystocele should be the preferred approach. It has a number of advantages (short hospital stay, reduced time to bladder catheterisation, virtually no morbidity or mortality) and above all offers good anatomical and functional results in the medium and long term.

Authors' Contributions

AVION Kouassi Patrice, AKASSIMADOU N'diamoi, AGUIA Brice: statistical analysis and re-reading of the article as well as its drafting.

ZOUAN Freddy, ALLOKA Venance, KAMARA Sadia, DJE Koffi: documentary research and editing of the work.

Ethical Considerations

We have protected the confidentiality of the information gathered during the survey. Thus, an anonymity number was assigned to each survey form with authorisation obtained from the administrative and health authorities.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

References

[1] Lamblin, G., Azzi-Peltier, C., Chabert, P., Lebail, K., Ghene, G. and Mellier, G. (2016) Comment je fais… Une cure de cystocèle de stade 3 par colposuspension vaginale. *Gynécologie obstétrique et fertilité*, **44**, 437-439. https://doi.org/10.1016/j.gyobfe.2016.06.009

[2] Mathlouthi, N., Elloumi, J., Trabelsi, H., Ben Ali, I., Dhouib, M., Chabène, K., *et al.* (2011) Résultats anatomiques et fonctionnels après cure chirurgicale de prolapsus uro-génital: Etude prospective. A propos de 93 cas. *Tunisie Médicale*, **89**, 896-901.

[3] Hwa, K. and Yap Hong, J. (2014) Management of Pelvic Organ Prolapse. *Korean Journal of Urology*, **55**, 693-702. https://doi.org/10.4111/kju.2014.55.11.693

[4] Diabète, I., Sow, I., Bâ, A. and Fall, V. (2015) Indication de l'abord vaginale en chirurgie urologique: A propos de 30 cas. *African Journal of Urology*, **21**, 30-35. https://doi.org/10.1016/j.afju.2014.11.003

[5] Cosson, M., Collinet, P., Occelu, B., Narducci, F. and Crepin, G. (2001) Cure de

cystocèle par plaston vaginal. *Progrès en Urologie*, **11**, 340-346.

[6] Bader, G., Fauconnier, A., Roger, N., Heitz, D. and Ville, Y. (2004) Cure de cystocèle par voie vaginale. Prothèse de polyprophylène sous-vésicale transversale libre. Technique et résultats. *Gynécologie obstétrique et fertilité*, **34**, 280-284. https://doi.org/10.1016/j.gyobfe.2004.02.004

[7] Long, L., Chang, L.L., Seung, W.Y., Lee, J.Y., Lee, G.L. and Lim, S.J. (2021) Transobturator Four-Arms Mesh in the Surgical Management of Cystocele: A Long Term Follow-Up. *Journal of Exercise Rehabilitation*, **17**, 59-65. https://doi.org/10.12965/jer.2142098.049

[8] Coulibaly, Y., Ouattara, Z., Konate, M., Sanogo, M., Sinayogo, B. and Ouattara, K. (2010) Cystocèle: Aspects cliniques et thérapeutiques dans le service d'urologie du CHU Gabriel Touré. *Mali Médical*, **2**, 29-31.

[9] Zangarelli, A., Curinier, S., Campagne-loiseau, S., Rabischong, B., Mansoor, A. and Guy, L. (2014) Cure de cystocèle par prothèse libre intervésico-vaginale: Resultats anatomique et fonctionnels à plus de 6 ans chez une cohorte de 90 patientes. *Progrès en Urologie*, **24**, 851.

[10] Dimos, S. and Fiona, R. (2017) Pelvic Organ Prolapse: Anatomical and Functional Assessment. *Obstetrics, Gynaecology et Reproductive Medecine*, **27**, 57-64. https://doi.org/10.1016/j.ogrm.2017.01.004

[11] Kamina, P. and Chansigaud, J.P. (1998) Soutènement et suspension des viscères pelviens chez la femme. Anatomie fonctionnelle et chirurgicale. *Journal de Gynécologie Obstétrique et Biologie de la Reproduction*, **17**, 835-848.

[12] Le Normand, L., Deffreux, X., Donald, L., Futton, B. and Cour, F. (2013) Une interposition prothétique synthétique inter vesico-vaginale implantée par voie vaginale diminue-t-elle le risque de récidive de cystocèle? Recommandations pour la pratique clinique. *Progrès en Urologie*, **26**, S38-S46. https://doi.org/10.1016/S1166-7087(16)30427-4

[13] Tamanini, T.J., Castro, R.O., Tamanini, J.M., Castro, R.A., Sartori, M.G. and Girao, M.B. (2015) A Prospective, Randomized, Controlled Trial of the Treatment of Anterior Vaginal Wall Prolapse: Mediamtern Followup. *The Journal of Urology*, **193**, 1298-1304. https://doi.org/10.1016/j.juro.2014.10.003

[14] Tristan, K., Lysanne, C. and Gopol, B. (2012) Synthetic Mesh in the Surgical Repair of Pelvic Organ Prolopse: Current Status and Future Direction. *Urology*, **80**, 237-243. https://doi.org/10.1016/j.urology.2012.04.008

[15] Theobold, V.P. and Labbé, E. (2004) La triple opération périnéale avec prothèse: Technique opératoire et premiers résultats à propos de 100 cas. *Revue médicale université de Navarre*, **48**, 70-74.

[16] Korahanis, N., Goron, A., Farache, C., Panel, L. and Courtier, C. (2014) Traitement des prolapsus genitaux ou renfort prothétique léger par voie vaginale. *Progrès en Urologie*, **24**, 518-525. https://doi.org/10.1016/j.purol.2014.04.001