



## CLINICAL ARTICLE

## The epidemiology and management of gynatresia in Lagos, southwest Nigeria

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## ABSTRACT

**Objective:** To document data from patients presenting with gynatresia at 2 tertiary health centers in Lagos, southwest Nigeria. **Methods:** In a prospective, descriptive study, clinical history and physical examination data were collected for women who presented with gynatresia between January 2004 and January 2011. Ultrasonography results and abnormality at surgery were also documented. Where possible, the severity of stenosis and surgical outcome were assessed by published scales. **Results:** Forty-seven patients were included in the study. Eight patients (17.0%) presented with congenital gynatresia, the commonest cause of which was Mayer–Rokitansky–Küster–Hauser syndrome (4 patients, 50%). Thirty-nine patients (83.0%) presented with acquired gynatresia, the main cause of which was herbal pessaries (30 patients, 76.9%). Herbal pessaries were used to treat fibroids (23 patients, 76.7%), uterovaginal prolapse (3, 10.0%), and infertility (2, 6.7%); and to procure abortion (2, 6.7%). The ages of the patients who used herbal pessary ranged from 18 to 50 years (mean  $36.10 \pm 1.24$  years). Other causes of acquired gynatresia were birth injuries (6 patients, 15.4%), and female genital mutilation (2, 5.1%). **Conclusion:** Acquired gynatresia was more common in Lagos than congenital gynatresia. The causes of acquired gynatresia are preventable and could be eliminated by health education.

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## 1. Introduction

In high-resource countries, the incidence of acquired gynatresia is lower than that of the congenital type, and results from iatrogenic causes such as surgery and radiotherapy to the genital tract [1]. In low-income countries, however, acquired gynatresia is more common because birth injuries and female genital mutilation (FGM) contribute to the incidence of this type of gynatresia.

Vaginitis resulting from herbal pessary is the most frequent cause of gynatresia in southwest Nigeria [1–4], whereas FGM is reported to be the most common cause of acquired gynatresia in eastern Nigeria [5]. By contrast, a study carried out in Benin in central-west Nigeria and Ibadan in southwest Nigeria found that herbal pessary is the commonest cause of acquired gynatresia, followed by FGM [2]. Similarly, in a study in Ibadan, Arowojolu et al. [3] reported that herbal pessary was the most frequent cause of acquired gynatresia, followed by birth injuries.

The aim of the present study was, first, to evaluate the causes of gynatresia in Lagos in southwest Nigeria 20 years after the introduction of health education to discourage FGM and the use of herbal pessary, and after improvements in obstetric care; and, second, to compare the treatment of and outcomes of gynatresia with previous data.

## 2. Materials and methods

A prospective study was carried out at 2 tertiary healthcare institutions—the Lagos University Teaching Hospital and the Lagos State University Teaching Hospital—in Lagos, southwest Nigeria. Between January 20, 2004, and January 31, 2011, patients diagnosed with congenital vaginal atresia or aplasia of the vagina, and patients with acquired gynatresia from all causes were enrolled in the study. Approval for the study was obtained from the research and ethics committee of both health institutions, and consent was obtained from the patients.

The data collected were age, occupation, marital status, clinical history, physical examination, abdominal and pelvic ultrasound findings, and abnormalities found during examination under anesthesia and surgery. Data were presented as mean  $\pm$  SEM.

The severity of the stenosis and the outcome of surgery were assessed via published scales [6]. The data were analyzed via SPSS version 17 (IBM, Armonk, NY, USA).

## 3. Results

Forty-seven patients presented with gynatresia during the study period. Eight patients (17.0%) presented with congenital gynatresia (Table 1). The most frequent cause of congenital gynatresia was Mayer–Rokitansky–Küster–Hauser (MRKH) syndrome (4 patients).

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**Table 1**

Clinical information of patients presenting with congenital gynatresia.

Age, y	Etiology	Other findings	Surgery	Outcome
14	MRKH	Occluded atretic fallopian tubes	Bilateral PTF	Flap survival
24	MRKH	Dysgenetic right ovary and tubes	Gracilis myocutaneous flaps	Flap survival
15	Intersex	CAH hypoplastic uterus with hypertrophic clitoris	Bilateral PTF	Flap survival
14	Hermaphrodite	Hypoplastic uterus, 1 ovotestis, hypertrophic clitoris	Bilateral PTF; gluteal flap for labia	Flap survival
15	MRKH	Cystic ovaries	Bilateral PTF	Flap survival
3	Intersex	Macrostomia	Awaiting surgery	Awaiting surgery
19	Intersex	CAH, hypertrophic clitoris	Awaiting surgery	Awaiting surgery
35	MRKH	Absent uterus	Bilateral PTF	Flap survival

Abbreviations: CAH, congenital adrenal hyperplasia; PTF, pudendal thigh flap; MRKH, Mayer–Rokitansky–Küster–Hauser syndrome.

Three patients had an intersex phenotype with ambiguous genitalia. One patient was a true hermaphrodite (Table 1).

Three patients with MRKH syndrome had normal uterine development with amenorrhea and hematometra. These 3 women presented with cyclic monthly abdominal pain, but absence of menstruation. Two of the 3 patients had vaginoplasty with bilateral pudendal thigh flaps (BPTFs), whereas 1 patient had vaginoplasty with bilateral gracilis myocutaneous flaps. For all 3 patients, uterovaginal continuity was restored with normal menstrual outflow. One patient with MRKH syndrome presented with absence of the uterus. This patient had vaginoplasty with a BPTF (Table 1).

Two of the patients with an intersex phenotype presented with congenital adrenal hyperplasia with hypertrophy of the clitoris. One of these patients had vaginoplasty with a BPTF and clitoridectomy; the other was awaiting surgery at the time of publication. The true hermaphrodite was a genetic female with ovotestes, ovaries, and hypoplastic uterus. The patient had vaginoplasty and vulval reconstruction with a bilobed BPTF and gluteal fold flaps.

Thirty-nine patients (83.0%) presented with acquired gynatresia. The most common cause of acquired gynatresia was scarring from vaginal chemical burns (SVCBs), resulting from herbal pessary use (30 patients; 76.9%) (Table 2, Fig. 1). The ages of the patients with SVCBs ranged from 18 to 50 years (mean  $\pm$  SD, 36.10  $\pm$  1.24 years). Two patients, aged 18 years and 22 years, sustained SVCBs from use of herbal pessary to induce abortion (Table 2, Fig. 1). Most patients with SVCBs had had gynatresia for 5 to 10 years before presentation at the clinic. Eight patients (26.7%) had undergone at least 1 or 2 previous unsuccessful vaginoplasty procedures, and 3 patients (10.0%) had undergone 3 or 4 previous unsuccessful vaginoplasties. The vaginoplasty procedure in these patients was vertical division of the scar with or without transverse suturing with vaginal dilations.

The 30 patients with SVCBs used the herbal pessary for the following conditions: fibroids (23 patients, 76.7%), uterovaginal prolapse (3, 10.0%), infertility (2, 6.7%), and abortion (2, 6.7%) (Fig. 1). Among the 23 patients that used the pessary to treat fibroids, 14 (46.7%) had associated primary infertility, 8 (26.7%) had fibroids alone, and 1 (3.3%)

**Table 2**

Clinical information of patients with acquired gynatresia resulting from pessary use.

Age, y	Education	Occupation	Source of referral	Indication for pessary use	Parity	Severity of stenosis	Other findings	No. of previous vaginoplasty	Surgery	Outcome
34	Technical education	Community health worker	Radio	Infertility/fibroids	2	2	–	3	EPTF (left) + PTF (right) + myomectomy	Excellent
39	Secondary	Trader	Friend	Infertility/fibroids	0	3	–	4	Bilateral PTF	Excellent
30	Post-secondary	Civil servant	Radio	Infertility/fibroids	0	4	CS	4	Bilateral PTF + myomectomy	Excellent
40	Secondary	Housewife	Radio	Infertility/fibroids	0	5	RVF	5	Unilateral left PTF + GFCF + DP	Fair
46	Post-secondary	Teacher	Radio	Fibroids	0	4	CS	1	Bilateral PTF + myomectomy	Excellent
34	Post-secondary	Civil servant	Newspaper	Infertility/fibroids	0	2	–	4	Bilateral PTF + myomectomy	Excellent
41	Post-secondary	Teacher	Radio	Infertility/fibroids	1	3	–	3	Bilateral EPTF	Excellent
40	Primary	Farmer	Radio	Prolapse/laxity	6	3	–	2	Awaiting surgery	Awaiting surgery
50	Primary	Farmer	Neighbor	Prolapse/laxity	5	2	–	2	Awaiting surgery	Awaiting surgery
48	Secondary	Housewife	Newspaper	Prolapse/bleeding	4	2	–	1	Awaiting surgery	Awaiting surgery
31	Post-secondary	Nurse	Radio	Fibroids/pregnant	2	2	–	1	Awaiting surgery	Awaiting surgery
35	Post-secondary	Teacher	Radio	Infertility	2	2	–	3	Bilateral EPTF	Excellent
30	Secondary	Trader	Friend	Infertility/fibroids	0	3	–	0	Bilateral PTF + myomectomy	Poor
40	Post-secondary	Teacher	Radio	Infertility/fibroids	0	5	RVF	2	Bilateral PTF + colostomy	Excellent
18	Secondary	Student	Radio	Abortion	0	3	–	1	Bilateral PTF	Excellent
22	Secondary	Student	Radio	Abortion	0	3	–	1	Bilateral PTF	Excellent
30	Secondary	Housewife	Newspaper	Infertility/fibroids	0	4	–	2	Bilateral PTF	Good
35	Post-secondary	Civil servant	TBA	Infertility/fibroids	0	3	–	2	Bilateral PTF	Good
36	Secondary	Trader	Newspaper	Infertility/fibroids	0	4.0	–	0	Bilateral PTF + myomectomy	Good
38	Post-secondary	Civil servant	Radio	Infertility/fibroids	0	5	RVF	2	Bilateral PTF	Good
40	Primary	Trader	Neighbor	Infertility/fibroids	0	3	–	2	Bilateral PTF	Excellent
36	Post-secondary	Business	Radio	Fibroids	0	2	–	2	Awaiting surgery	Awaiting surgery
39	Secondary	Unemployed	Friend	Fibroids	1	3	–	1	Bilateral PTF	Excellent
37	Secondary	Housewife	Radio	Fibroids	0	2	–	0	Bilateral PTF	Excellent
42	Secondary	Trader	Radio	Fibroids	1	3	–	1	Awaiting surgery	Awaiting surgery
30	Secondary	Housewife	Newspaper	Infertility/fibroids	0	3	–	0	Bilateral PTF	Excellent
40	Post-secondary	Civil servant	Friend	Fibroids	1	2	–	0	Awaiting surgery	Awaiting surgery
30	Secondary	Unemployed	Friend	Fibroids	0	4	–	1	Awaiting surgery	Awaiting surgery
34	Post-secondary	Student	Friend	Fibroids	1	3	–	0	Bilateral PTF	Excellent
38	Secondary	Housewife	Radio	Infertility/amenorrhea	0	3	–	0	Bilateral PTF	Excellent

Abbreviations: CS, complete stenosis; DP, division of flap pedicle; EPTF, extended pudendal thigh flap; GFCF, gracilis fasciocutaneous flap; MRKH, Mayer–Rokitansky–Küster–Hauser syndrome; PTF, pudendal thigh flap; RVF, rectovaginal fistulae; TBA, traditional birth attendant.

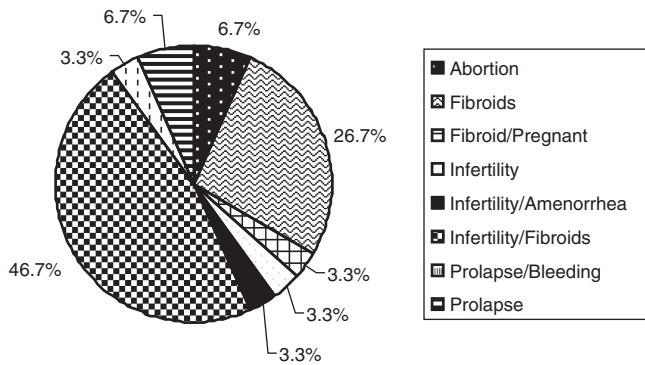


Fig. 1. Reasons for herbal pessary use.

used the pessary to treat fibroids in pregnancy. Among the 2 patients that used the pessary to treat infertility, 1 had associated amenorrhea and treatment was aimed at stimulating regular cycles. All 30 patients with SVCBs had some formal education. Three (10.0%) had completed primary education, 14 (46.7%) had secondary education, 12 (40.0%) had post-secondary education, and 1 had attended technical school. The source of information for the use of pessary was radio advertisement (16 patients, 53.3%), friends or neighbors (8, 26.7%), newspaper (5, 16.7%), and traditional midwife (1, 3.3%).

Birth injury with vesico-vaginal fistula (VVF) was responsible for gynatresia in 4 (10.3%) patients, and birth injury without fistula was responsible for gynatresia in 2 (5.1%) patients (Fig. 2). Of the 4 patients with birth injury with fistula, 2 developed gynatresia after transvaginal repair of VVF. These patients declined further surgery to correct the gynatresia. Two other patients were referred when gynatresia was discovered during workup for transvaginal fistula surgery. Other causes of acquired gynatresia were FGM in 2 patients (5.1%) and post-burn perineal contractures in 1 patient (2.6%). This patient was an 11-year-old child with perineal and thigh scald burn scars with fusion of the labia. The labial contractures were released by Z-plasty. The patients with FGM were aged 26 and 28 years. They were “circumcised” at puberty, and gynatresia was discovered after they became sexually active. Gynatresia in these patients presented as fusion of the labia minora with an anterior opening for urine and menstruation. Surgical correction for these patients involved division of labial fusion with linear suturing.

The severity of vaginal stenosis was graded by using a published scale [6]. Type 1 stenosis was found in patients with post-burn perineal scars and in 2 patients with FGM. The severity of vaginal stenosis in patients who had used herbal pessary is given in Table 3. Three patients presented with type 5 stenosis with associated recto-vaginal fistula (RVF; Tables 2 and 3). One patient who inserted herbal pessary for infertility and amenorrhea could not be appropriately classified via the severity scale because the surgical finding was complete occlusion of the vagina and os indicating type 4 gynatresia; however,

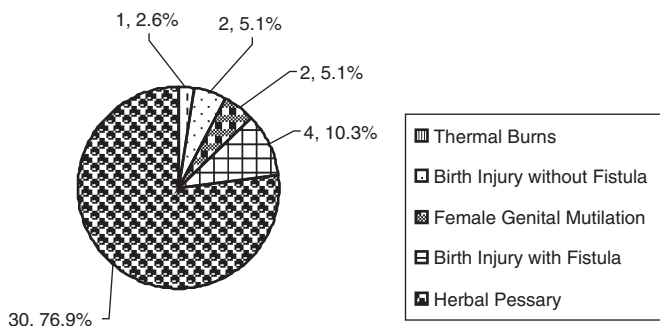


Fig. 2. Etiology of acquired gynatresia.

**Table 3**  
Severity of stenosis among patients with acquired gynatresia.<sup>a</sup>

Severity of stenosis <sup>b</sup>	Birth injury	FGM	Obstetric fistula	Herbal pessary	Thermal burns	Total
1	0 (0)	2 (5.1)	0 (0)	0 (0)	1 (2.6)	3 (7.7)
2	0 (0)	0 (0)	0 (0)	9 (23.1)	0 (0)	9 (23.1)
3	2 (5.1)	0 (0)	4 (10.3)	12 (30.7)	0 (0)	19 (46.1)
4	0 (0)	0 (0)	0 (0)	5 (12.8)	0 (0)	5 (12.8)
5	0 (0)	0 (0)	0 (0)	3 (7.7)	0 (0)	3 (7.7)
NA	0 (0)	0 (0)	0 (0)	1 (2.6)	0 (0)	1 (2.6)
Total	2 (5.1)	2 (5.1)	4 (10.3)	30 (76.9)	1 (2.6)	39 (100.0)

Abbreviations: FGM, female genital mutilation; NA, not applicable.

<sup>a</sup> Values are given as number (percentage).

<sup>b</sup> Via severity scale form.

there was absence of hematocolpos and/or hematometra, which is essential for diagnosis of type 4 gynatresia. The presence of a hypoplastic uterus and increased levels of follicle stimulating hormone and luteinizing hormone indicated primary ovarian failure.

Among the 30 patients with gynatresia resulting from herbal pessary, 22 had surgery and 8 were awaiting surgery at the time of publication (Table 4). Two patients had vaginoplasty using a bilateral extended pudendal thigh flap (EPTF). Seventeen had vaginoplasty with a BPTF. Five patients had myomectomy with vaginoplasty at the same setting. One patient had vaginoplasty with repair of RVF by a BPTF and colostomy; 1 patient had an EPTF on the left and a pudendal thigh flap (PTF) on the right with concomitant myomectomy (Table 4). One woman initially had a left PTF with poor outcome. She subsequently had salvage surgery with a left gracilis-fasciocutaneous flap (Table 4). She developed neuropathic pain in the flap; this was corrected by division of the base of the flap with no improvement in outcome.

The outcome of repair of gynatresia resulting from SVCBs was evaluated with a published scale [6]. Twenty-two patients with SVCBs had vaginoplasty; of these, 16 (72.7%) had excellent outcome, 4 (18.2%) had good outcome, 1 (4.5%) had fair outcome; and 1 (4.5%) had poor outcome. Of the 4 patients with gynatresia with VVF (Table 4), 2 had the VVF repaired through the abdominal route. These patients declined surgery when the possibility of a recurrent VVF was discussed as part of the preoperative informed consent for vaginoplasty. Two other patients were referred on account of the difficulty of access for transvaginal VVF repair after previous VVF repair.

#### 4. Discussion

A PubMed search using the Medical Subject Headings “congenital” and “gynatresia” identified 13 publications. There has been no previous epidemiologic study on congenital gynatresia. In the present study, the epidemiology of congenital and acquired gynatresia was reviewed in a hospital setting. The finding of 8 patients with congenital gynatresia versus 39 patients with acquired gynatresia is in agreement with previous reports showing a predominance of acquired gynatresia over congenital gynatresia in a low-income country.

Congenital gynatresia involves malformations in which there may be chromosomal, gonadal, or phenotypic sex expression, and was termed a “disorder of sexual development” by international experts at the Lawson Wilkins Pediatric Endocrine Society and the European Society for Paediatric Endocrinology at their consensus meeting [7]. “Disorder of sexual development” was proposed to replace terms such as “hermaphrodite” and “intersex” because of overlapping clinical, psychological, and diagnostic findings, and therapeutic intervention.

The most common cause of congenital gynatresia was found to be MRKH syndrome, a condition where a genetic female is born with incorrect development of structures originating from the Müllerian duct and the urogenital ridge. The incidence of MRKH syndrome is reported to be 0.5%–4.5% in women in Finland [8]. There is no

**Table 4**  
Surgical procedures among patients with acquired gynatresia.<sup>a</sup>

	Birth injury	FGM	Obstetric fistula	Herbal pessary	Thermal burns	Total
Awaiting surgery	1 (2.6)	0 (0)	2 (5.1)	8 (20.5)	0 (0)	11 (28.2)
Bilateral EPTF	0 (0)	0 (0)	0 (0)	2 (5.1)	0 (0)	2 (5.1)
Bilateral PTF	0 (0)	0 (0)	0 (0)	12 (30.8)	0 (0)	12 (30.8)
Bilateral PTF + myomectomy	0 (0)	0 (0)	0 (0)	5 (12.8)	0 (0)	5 (12.8)
Bilateral PTF + colostomy	0 (0)	0 (0)	0 (0)	1 (2.6)	0 (0)	1 (2.6)
Declined surgery	1 (2.6)	0 (0)	2 (5.1)	0 (0)	0 (0)	3 (7.7)
Division of labial fusion	0 (0)	2 (5.1)	0 (0)	0 (0)	0 (0)	2 (5.1)
EPTF (left) + PTF (right) + myomectomy	0 (0)	0 (0)	0 (0)	1 (2.6)	0 (0)	1 (2.6)
Release of scar and lotus flaps	0 (0)	0 (0)	0 (0)	0 (0)	1 (2.6)	1 (2.6)
Unilateral left PTF + GFCF + DP	0 (0)	0 (0)	0 (0)	1 (2.6)	0 (0)	1 (2.6)
Total	2 (5.1)	2 (5.1)	4 (10.3)	30 (76.9)	1 (2.6)	39 (100.0)

Abbreviations: DP, division of flap pedicle; EPTF, extended pudendal thigh flap; FGM, female genital mutilation; GFCF, gracilis fasciocutaneous flap; PTF, pudendal thigh flap.

<sup>a</sup> Values are given as number (percentage).

published incidence for the African population. The pathology can be classified as horizontal, vertical, or combined horizontal and vertical fusion defects, which may be associated with aplasia of any part of the Müllerian tube. The transverse fusion defects present as transverse vaginal septum, imperforate hymen, and absence of uterus or fallopian tubes. The vertical fusion defects present as longitudinal vaginal septum, didelphic, bicornuate, and unicornuate uterus. There may also be a combination of transverse and vertical defects [9].

MRKH syndrome may be obstructive or non-obstructive. The obstructive lesion results in hydrocolpos, hematocolpos or failure of sexual penetration. For this reason, hospital epidemiologic data are not a true reflection of the incidence or prevalence of MRKH syndrome. A national hospital-based study carried out in tertiary hospitals in Finland found an incidence of MRKH syndrome ranging from 1 in 3803 to 1 in 7530 over a 9-year period [8]. Other rare associated anomalies, such as renal agenesis, cervicothoracic somite dysplasia, Goldenhar syndrome 6, and situs inversus [10], were not observed in the present study.

The commonest cause of acquired gynatresia resulted from SVCBs from herbal pessaries, and was found in 76.9% of women. This also is in agreement with previous studies from southwest Nigeria that showed that herbal pessaries were responsible for gynatresia in 56% of patients in Benin [2] and 64% of patients in Ibadan in southwest Nigeria [3]. In southeast Nigeria, herbal pessaries were responsible for gynatresia in 3% of patients [5]. Herbal pessaries are used by rural women to treat uterovaginal prolapse and to firm up the vaginal wall in order to heighten the sexual stimuli [3]. It has been recently promoted by alternative practitioners as a cheap non-operative treatment for uterine fibroids. The practitioners also advertise it as a cure for amenorrhea, infertility, and dysfunctional uterine bleeding; and as a method of inducing abortion [2,3]. In the present study, the most frequent reason for using herbal pessaries was to treat uterine fibroids. Pessary use is widespread because it is freely advertised on radio and newspaper. Most of the study participants had heard about pessaries from electronic and print media. Gynatresia resulting from the use of herbal pessaries is therefore a public health problem that could be eliminated by health education.

The herbal pessary contains a mixture of potash and herbs [2,6], which causes chemical vaginitis that heals with extensive fibrosis causing vaginal stenosis. The burns may affect surrounding tissue causing an RVF, as found in 3 study patients. No participant had developed a VVF; this may be due to the relative thickness of detrusor muscles. After pessary use, women develop dyspareunia that progresses to apareunia with cryptomenorrhea, hematocolpos, and hematometra. This scarring is responsible for the unsatisfactory outcome of most types of vaginoplasty using local tissues such as adhesiolysis, excision of scar, and suturing [2]; Arthur Williams vulvo-vaginoplasty; and McIndoe operations [1–3,5]. Repairs with local tissue will excite more fibrosis. The scarred vagina will not be able to nourish a skin graft, and will also prevent adequate

contact between skin grafts mounted on a mold and the bed in the McIndoe operation.

Most participants in the present study had undergone multiple attempts at local vaginoplasty with no improvement. These procedures require regular dilation [1–4], and the use of dilators was not socially acceptable to the study patients. In addition, many of these patients were separated or divorced from their spouse, and coitus as a form of dilatation was not also available [3]. The PTF and EPTF were used in 4 patients with congenital gynatresia and 22 patients with SVCBs. This flap is an axial fasciocutaneous perforator flap [11,12] that takes blood supply to the scarred vaginal bed. Because flaps do not undergo contracture, postoperative dilatation is not necessary [6]. Eight flaps survived in 4 patients with congenital gynatresia. The function of the lining was acceptable in most of the 22 patients with acquired gynatresia.

Birth injury with or without fistula was the second most frequent cause of gynatresia in the present study. This is similar to the findings at Ibadan in southwest Nigeria [3]. Birth injury with or without fistula is common in Nigeria, and is more common in northern Nigeria [13]. Obstructed labor with pressure necrosis of the vagina results in healing with scarring and may be associated with a fistula. Vaginal scarring in birth injury may be associated with life-long dyspareunia that may not come to the surgeon's attention. To our knowledge, no studies have assessed sexual satisfaction after obstructed labor or after fistula repair. In the present study, the patients with VVF presented with gynatresia before or after VVF surgery. Sometimes, the indication for trans-abdominal repair of VVF may be poor access from a scarred vagina. Usually, for birth injury with VVF, the goal of repair is to close the fistula and achieve continence [14], rather than to correct gynatresia [13,14]. It has been reported that approximately 10% of patients develop gynatresia after obstetric fistula repair [14].

Female genital mutilation was not a leading cause of acquired gynatresia in the present study, although this practice is still widespread. This is consistent with previous studies from southwest Nigeria [1,2] but contrasts with reports from eastern Nigeria, where it was found to be the leading cause of gynatresia. This may be because more limited excision is carried out in southwest Nigeria. It is worth noting that the 2 study patients with FGM were of southeast Nigeria ethnic origin. The deformity found in the 2 patients with FGM was fusion of the labia minora, and the treatment was surgical separation of the labia minora with suturing of the epithelium of the labia. The surgery was done after the patients had applied estrogen cream for 3 weeks. Notably, radiotherapy, colporrhaphy, and hysterectomy, which are the causes of gynatresia in high-income countries, did not feature as causes of acquired gynatresia in the present study.

In summary, both congenital and acquired gynatresia were successfully treated with the BPTF or any of its modifications. Acquired gynatresia was found to be more common than congenital gynatresia in Lagos. The most frequent cause of congenital gynatresia was MRKH

syndrome and that of acquired gynatresia was SVCBs. The cause of SVCBs—that is, pessary use—could be eradicated with health education aimed at the individual, community, and national level. This could be done through print and electronic media, which is the medium currently used to propagate the harmful practice. Legislation against advertisements and the prescription of herbal pessaries should be urgently promulgated, and the government should show political will by enforcing such legislation.

### Conflict of interest

The authors have no conflicts of interest.

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